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ABSTRACT

A study identified barriers to the implementation of competency-based vocational education (CBVE) in Florida and gathered and reported suggested solutions to overcoming those barriers. To gather data for the study, researchers conducted force-field analysis sessions, site visits, a literature review, and telephone surveys. From data concerning and obtained from administrators at the 59 postsecondary institutions in Florida that provide CBVE, 65 perceived barriers were identified. Of these, 50 were eventually validated. Data from the various survey instruments used in the project were then analyzed in order to identify possible strategies for overcoming these barriers at the state, institutional, and program levels. (The major part of this report consists of a list of barrier statements and a series of recommendations for dealing with the barriers at the three levels. Appendixes to the report include lists of project advisory committee members, Florida postsecondary schools, and participants in the force field analysis sessions; charts detailing CBVE implementation for instructional programs and the final barrier statements; and copies of the four survey instruments used in the project.) (MN)

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FINAL REPORT
Project No. DVE 42C23
From September 28, 1983 to August 31, 1984

IDENTIFICATION AND DESCRIPTION OF BARRIERS FOR THE IMPLEMENTATION OF COMPETENCY-BASED VOCATIONAL EDUCATION

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The project reported herein was conducted pursuant to a grant from the Division of Vocational Education, Florida Department of Education. Contractors undertaking such projects are encouraged to express freely their professional judgments in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent the official position or policy of the Florida Department of Education.

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ABSTRACT

Florida's postsecondary institutions have made sluggish progress in implementing competency-based vocational education (CBVE). The gain has been real but slow, indicating that barriers to further establishment of CBVE do exist. The intent of this project was to identify barriers to the implementation of CBVE within Florida's postsecondary institutions and to gather and report suggested solutions for overcoming those barriers.

Early in the course of this project it became apparent that considerable confusion exists among Florida vocational educators about the definitions of key terms associated with CBVE. This project defined the term "competency-based vocational education" as including two essential elements: (1) competencies to be learned by trainees are derived from a rigorous analysis of the target occupation, and (2) trainees are assessed on each competency by direct observation of their performance. In addition, there are several facilitating, though not essential elements that allow CBVE to reach its full potential. "Individualized instruction" places its emphasis on the method rather than the content or assessment procedures of instruction. It is characterized by: (1) choice of instructional mode and media, and (2) adjustment of instruction to learner needs, characteristics, and skills. "Self-paced instruction" allows the learner to work at his/her own best rate to ultimately achieve the specified knowledge or skill. It is important that the definitions of key terms are clearly understood by all vocational educators, and that the definitions are applied to all CBVE implementation activities.

The study relied on force-field analysis sessions, site visits, literature review, and telephone interviews to identify and verify barriers to CBVE and feasible solutions to these barriers. The project identified 65 perceived barriers that were rated for existence and influence and were ultimately either validated or not validated. Of this total 50 of the perceived barriers were judged to be validated. Solutions and coping strategies for dealing with each barrier were identified and described. The potential solution strategies were screened by the project staff and, where appropriate, matched to specific barriers. The specific list of barriers and solutions are included in the body of the report. The Appendix to the report includes a table of each barrier that was either found to be validated or not validated.

The perceived barriers include those associated with decisions outside of Florida's organization of vocational education, those concerning the operation of specific programs, those concerned with faculty attitudes and administrative actions, and barriers associated with the Florida State Division of Vocational, Adult, and Community Education (DVE). For the most part, the barriers consist of three types of perceptions; a) barriers due to a lack of support and unavailable resources, b) barriers associated with obstacles that must be removed or dealt with through some coping mechanism, and c) delusions or misperceptions related to incomplete or inaccurate information about CBVE.

A large majority of the perceived barriers to CBVE are people concerns. They represent perceptions and are related to actions or lack of actions that are controlled by the people who are in charge. Thus, many of the solutions involve the resolve and willingness to make specific administrative decisions related to institutional and program operation. As can be expected, most of the actions or failure to act deal with issues that are under the control of local vocational administrators and the Division of Vocational Education staff.

Institutions that are currently operating the more complete CBVE programs have faced and overcome most barriers without extreme difficulty. Within these institutions most of the perceived barriers existed at one point in time and to some extent continue to exist for those individual programs that have not yet become competency-based. The extent of perceived reality of the barriers appears to be related to the degree to which competency-based instruction has been implemented. As CBVE programs are implemented and become routine, the barriers are overcome and disappear, either in fact or in perception. Within institutions that have little CBVE, the perceived barriers are much more real and obstructive. The intensity of the barriers appears to be directly related to a lack of affirmative administrative action which almost universally results in low-level implementation of CBVE.

Based on our site visits and interviews, we have concluded that much of the positive action and decision making of local administrators that has resulted in a greater degree of implementation of CBVE is based on their personal commitment to competency-based programs. Few administrators who have strong CBVE programs within their institutions and few administrators who have low-level CBVE programs reported an awareness of explicit DVE encouragement to develop CBVE programs. Local administrators do not perceive the DVE policies to reinforce institutions for the development of CBVE programs. They report very few, if any, DVE actions that explicitly make it more beneficial for institutions that have developed and implemented CBVE programs.

Because the extent of CBVE development in local postsecondary institutions often reflects administrator commitment and local administrator perceptions of DVE actions, we have concluded that much of the slow pace in development of competency-based vocational education within Florida reflects a lack of Division-coordinated commitment, and failure to effectively act on policies that specifically support CBVE development by making it more beneficial to local agencies.

When administrators have taken the initiative to interpret rules and regulations in the matter that allows them to take actions and provide resources needed for the development of CBVE programs, progress in development and implementation moves very rapidly. They have created many local solutions to specific barriers.

Many faculty members have developed solutions to specific program operation barriers that reflect creative ideas and unique coping strategies. In some cases major developmental efforts have facilitated the growth of CBVE; for example, the creation of computer-based recordkeeping procedures. Most all barriers have solutions, and thus

they tend to disappear once the program becomes fully operational. Under proper leadership, vocational educators have found ways to get the job done.

The significant Division of Vocational Education barriers to CBVE are, for the most part, those of omission rather than commission. The division has failed to take specific overt actions that encourage or make it more beneficial to local administrators who implement or provide for the implementation of CBVE within their institutions. Although the division has taken several aggressive steps to support CBVE such as the development of a demonstration institution and the funding of the development of a computer-based system for student recordkeeping, these efforts have too often been localized and of benefit to single institutions. These benefits are seldom experienced by the majority of the individual institutions.

The total set of program area personnel that comprise the DVE should work as a unit to directly assist local administrators and their support staff to increase local CBVE development. The DVE should identify local administrators and their support staff as the primary targets of its initial efforts in promoting CBVE. During the past ten years individual program areas within the DVE have attempted to work with individual instructors within each program area. This strategy has not permitted the coordinated development of a CBVE thrust within each institution because it has not resulted in administrative commitment and administrative action that leads to an institutional plan for the development of CBVE. If the division wishes to support CBVE it should revitalize its commitment to the concept and promote it as the norm for Florida vocational education in the 1980's and beyond. To accomplish this end, the Division should develop a CBVE unit; i.e., a cross-program unit that is designed to facilitate development of the knowledge and skill needed by local administrators. Consideration should be given to structuring a central office for CBVE as suggested in the body of this report.

Teacher educators within the State of Florida need to commit themselves and their teacher education programs to the CBVE effort. Performance-based teacher education programs can serve as a model for the expected mode of vocational education. Few vocational teacher education programs operate performance-based programs or adequately train teachers to operate CBVE programs.

Local administrators must become knowledgeable about and committed to the methods needed to facilitate conversion of conventional programs to CBVE programs. They need to take the initiative and make decisions that foster CBVE rather than merely permitting it to exist. Administrators with the resolve to have CBVE programs in their institutions have realized that conversion takes time; it may take up to three years to fully convert a specific program, and from five to ten years to convert most programs within an institution. An essential part of the conversion is the employment of a competent CBVE curriculum specialist who has sufficient authority and adequate resources for assisting faculty members, a few at a time, with the demanding task of remaking conventional programs into CBVE programs.

There are few recommendations that are directed solely to instructors at the program level. With the exception of correcting inaccurate perceptions that accompany general resistance to change, solutions to barriers are largely out of the hands of faculty. However, the changes demanded of instructors themselves are very significant and may alter their duties in facilitating student mastery of occupational skills. The new duties may require additional training and for the period of conversion may require increased work responsibilities. Administrators need to find ways of providing training and rewarding instructors for the temporary additional workload.

Following is a brief summary of the major conclusions and recommendations derived from this study. Full descriptions and discussions of these recommendations are found in the body of the report in the section, "Perceived Barriers and Their Solutions."

Summary of Conclusions and Recommendations

1. There appears to be less implementation of CBVE in Florida than is generally reported (MGT study and others). Observation and questioning of reputed CBVE programs and schools show that many fail to meet the essential characteristics of CBVE as expressed in the working definition developed for this study.

2. There is considerable confusion about the terms "competency-based," "individualized," and "self-paced." They are treated as synonymous or integral ideas by DVE personnel and by many school personnel. This creates unnecessary resistance and emotional response, and tends to lessen the impact of CBVE.

3. There are many possible patterns or models for the implementation of CBVE, each of which allow postsecondary schools to meet the needs of its community, maximize the effectiveness of its staff, and function within available resources. Carefully designed, these models can maintain the integrity and potential of the approach, and avoid a monolithic statewide structure.

4. The most general weakness in CBVE programs appears to be occupational competency identification. This is not usually rigorous nor systematic. Typically the instructor develops the list and passes it by his/her advisory committee. Schools appear to be comfortable about this kind of procedure, and complacent about its fulfilling the requirements of CBVE.

5. The local administrator is the crucial element in the implmentation of CBVE. An administrator who is knowledgeable, committed, determined, and creative can overcome barriers to CBVE.

6. The DVE should foster CBVE by working with total schools, with less emphasis on training individual vocational teachers. Workshops and training materials for teachers can help them, but the environment in their home school, and the lack of support there, can easily negate the training effects. The DVE should consider its own organizational structure and de-emphasize the programmatic approach to change.

7. A great many of the barriers to CBVE are "people problems" rather than tangible or concrete difficulties; anxieties, misinformation or misapprehension, resistance to change, indolence, and complacency. These call for skillful use of change strategies, human relations techniques, information, and assistance.

8. The DVE commitment to CBVE does not appear to be recognized by the schools. They report little help from DVE in Tallahassee or in regional offices. As far as they are concerned DVE has no discernable policy on CBVE.

9. The DVE should review its commitment to CBVE and make sure DVE personnel share that commitment. The DVE must speak as one voice, with a clear message about CBVE.

10. There is urgent need for a DVE comprehensive plan for the establishment of CBVE. The plan should provide for the: (1) development of new DVE policy related to CBVE, (2) coordination of effort by the several bureaus, (3) development of incentives for schools and vocational personnel, and (4) utilization of all available resources for implementation of CBVE.

11. There is need for some kind of centralized source of information and assistance about CBVE for Florida's postsecondary institutions. There is a great wealth of expertise, proven solutions to barriers, information about CBVE, examples of printed materials, and support documents, but they remain only partially utilized because institutions don't know how or where to locate what they need. A Division-sponsored Center for CBVE, or even a package of information for local administrators are possibilities.

12. There is a need of more information about the effectiveness of CBVE and individualized instruction. The DVE should fund a study on a synthesis and analysis of research in this area.

INTRODUCTION

There is a strong commitment to competency-based vocational education (CBVE) among vocational leaders in the State of Florida. The Division of Vocational Adult and Community Education (DVE) has made its position clear in a number of widely disseminated documents over the years, most recently in the paper, Individualized Competency-Based Vocational Education: A Position Paper. A recent study reports that since 1978 the state has spent at least $15 million of federal funds in activities related to promoting CBVE. Currently, out of a total budget of $2.25 million, the Center for Studies in Vocational Education (CSVE) at Florida State University spends approximately $1.9 million on activities associated with CBVE.

Looked at in one way, much has been accomplished. The CSVE has produced a number of publications of considerable value to vocational educators interested in competency-based education. An area vocational center has been established as a demonstration site for CBVE, attracting many vocational educators from across the state and nation. Some form of instructional materials intended for competency-based instruction have been produced or acquired for about 75 different vocational programs. It has been estimated that about 75 percent of the programs at area vo-tech centers, and 60 percent of the vocational programs at community colleges have implemented CBVE to some degree.

But the degree of implementation in most programs is still small. Only a few postsecondary vocational programs, and even fewer whole institutions, have fully implemented CBVE. Though now generally accepted in theory, CBVE continues to be subject to widespread resistance or indifference in practice. There is great variability in what is identified as competency-based vocational education. After ten years of promotional effort and financial support, CBVE is still considered and treated as an "innovation," even by DVE personnel, and referred to as being in its initial stages of implementation.

Clearly, there are significant forces of work hindering the adoption process, and there are barriers that have made establishment of CBVE programs in postsecondary vocational education slow and difficult. A preliminary examination of the present situation reveals the possible existence of several broadly negative forces affecting CBVE.

- There may be no obvious or compelling reason to install CBVE, with few benefits to students, instructors, or institutions.
- The funds and other resources required to implement CBVE might be so great as to prevent implementation in most Florida schools.
- Vocational educators in Florida may be so resistant to change that a new approach to instruction cannot be accepted.

- State, local, and occupational agency requirements may be restrictive to the point that they prevent adoption of an alternative instructional mode.

- Vocational educators at all levels may lack information and necessary skills and therefore cannot procede with the implementation of CBVE.

This study was designed to examine these and other broad areas, identify the actual negative forces at work and isolate specific barriers to the implementation of CBVE in postsecondary institutions. The study achieved these results by searching the professional literature, asking for the perceptions of vocational educators experienced in CBVE, and by conducting investigative visits to institutions designated as being CBVE implementers. A second, and more positive, purpose of the study was to locate, formulate, and present a range of possible solutions to the identified barriers. We believe that this may be the most useful result of the work.

Project Objectives

As originally stated in the request for proposals (RFP) disseminated by the Division of Vocational, Adult, and Community Education, Florida Department of Education, there were five objectives for the project. These were, as given:

1. Identify and describe barriers to the implementation of CBVE in Florida's (1) community colleges and (2) area vocational/technical centers, with special emphasis on faculty requirements, staff development, funding for curriculum, procedural changes, and role changes. These barriers are to be included in an interim report submitted to the Division of Vocational Education within three months after the start of the funding period.

2. Identify and describe strategies to overcome the barriers identified as reported in the literature and by successful program administrators.

3. Suggest and describe additional strategies to overcome the barriers identified.

4. Describe implications for policy formation and implementation at the administrative level.

5. Submit a final report on or before August 31, 1984 consistent with the guidelines set forth in the publication titled, "Guide to Proposal Writing and Project Management in Vocational Education, Book 2: Project Management."

Assumptions

1. It is a basic assumption of this study that competency-based vocational education is desirable, and that it has great potential for improving vocational instruction in Florida.

2. It is assumed that the Division of Vocational, Adult and Community Education is genuinely committed to the implementation of CBVE in Florida schools, and is less than fully satisfied with the rate at which CBVE is being adopted by postsecondary vocational institutions and programs.

3. It is assumed that there is a high degree of common understanding among Florida vocational educators, both at the state and local levels, of the basic principles and practices of competency-based vocational education. Participants and respondents in this study are assumed to have contributed their perceptions of barriers on the basis of this common understanding.

4. It is assumed that the change from conventional to competency-based instruction will not occur inevitably or easily, but will require direct and concerted effort to achieve.

5. It is assumed that vocational educators in Florida are ready and able to attack the barriers that have been identified, and that reasonable financial and other support will be available to make this happen.

Limitations

1. The barriers to the implementation of competency-based vocational education identified in the course of this project are those affecting postsecondary education. Likewise, the solutions and strategies suggested are meant to apply to postsecondary institutions and programs. While it is likely that secondary CBVE has many similar barriers and solutions, it is the work of another study, now funded, to focus on that level of vocational education.

2. This study was limited to Florida postsecondary institutions and the Florida vocational education setting. In the process of gathering our data, however, we have become convinced that most of the barriers reported by Florida educators are of universal concern, and that the solutions proposed here are applicable to a wide range of vocational programs and settings. On the other hand, it is very likely that solutions to some of the barriers, particularly those related to state action, would tend to be unique for each state.

3. The purpose of this study was to identify barriers to CBVE. This report may therefore give the erroneous impression that competency-based education in Florida is beset by multitudinous

problems and difficulties. Such is not the case. Rather, the fact that this study was undertaken at all indicates a healthy desire to plan for an expanded future for CBVE.

4. The fifty barriers to CBVE reported here represent those most widely affecting vocational training programs. It was not the intent of this study to uncover every conceivable barrier to CBVE. It is therefore entirely possible that a particular institution or vocational program may be faced with an important barrier, not mentioned here, that is peculiarly specific to its situation.

5. The solutions and coping mechanisms suggested in a later section of this report are not represented as being all-inclusive or comprehensive. They are instead a compendium of recommendations derived from a variety of information sources and the professional expertise of the project staff; that is, solutions used by successful CBVE institutions and believed to be effective.

6. The present extent of implementation of CBVE in Florida and its impact on students are not within the scope of this study.

Planning for the Study

A preliminary plan for the study was drawn up and presented as a part of the original project proposal. As soon as the project got under way, a more complete and refined research design and a plan of action were developed. A Gant-type technical plan and a PERT chart for the study were also constructed. Both the research design and technical plans were presented to the project's advisory committee for discussion and reaction, and refinements were made in the light of the committee's input.

As planning proceeded, the project staff decided to incorporate a pragmatic research technique and a conceptual model for change in the investigation of barriers to CBVE. The "force field analysis" technique was deemed particularly appropriate for identifying a tentative list of barriers through the use of a group-dynamics strategy, using CBVE implementers as participants. The Hall Concerns-Based Adoption Model was applied to the investigative process to help determine the status and degree of development of reputed CBVE programs. Both of these models proved highly useful to the conduct of the study.

Definitions of CBVE and Related Concepts

During this period of rapid development of competency-based vocational education the literature of the field has become replete with descriptive terminology; sometimes vague, occasionally conflicting, often confusing. "Competency-based education," "individualized instruction," "self-paced instruction," and a host of related terms have been used in professional writing and conversation without a sufficiently clear idea of their meanings, and without a common understanding of their relationships. Florida has not been immune from this; an early DVE document on the subject, Individualizing Instruction for Competency-Based Education, used the two terms in its title virtually synonymously. More recent publications have not always been any more helpful, so the difficulty continues.

Varying interpretations and misapprehensions have been the unfortunate result. Unnecessary resistance to CBVE has been generated by some vocational educators' differences of perception about how it is supposed to function in the schools. In order to clarify its own thinking and its ability to communicate with others, the staff of the present project has set forth a description of the terms used in the field. These definitions may lead to wider discussion among vocational educators and ultimately to more general understanding. Following are brief statements describing five related terms. In a later section a more thorough "working definition" of CBVE is presented.

Competency-Based Vocational Education

Competency-based vocational education (CBVE) focuses on the occupational skills ("competencies") trainees are expected to achieve, and the performance of those competencies. Briefly, the foundation of CBVE is built on two unalterable essentials:

1. the occupational competencies to be achieved by the trainee are derived from a rigorous analysis of the occupation to ensure that they are accurate, complete, and up to date,

2. trainees are assessed on the competencies by observing their performance in conditions similar to that of the occupation; occupational criteria and standards of performance are used to determine the trainees proficiency.

Competencies are those observable skills incumbent workers use on the job -- the things they actually get paid to do. Knowledge and attitudes are considered to be integral to the occupational competencies to which they are related, not separate entities, and are so taught and learned. Progress through the training program is based on mastery of each competency, not on time enrolled or effort expended.

CBVE is less concerned with how the competencies are to be learned. It is possible to use many methods of teaching: large group instruction, small group instruction, independent study, projects, textbooks, etc. However, because mastery of the competencies is required, and because individuals learn at different rates, CBVE programs tend to move logically toward some forms of self pacing and individualization. Note, however, that these approaches are facilitating, not essential, elements of CBVE.

Performance-Based Vocational Instruction

Although it is often used synonymously with competency-based vocational education, the term performance-based vocational instruction is actually a somewhat more limited concept. The focus and concern of performance-based vocational instruction is on the assessment element, the performance of the target occupational skill by the trainee. There is less concern about the identification and verification of the competencies to be performed, or the method of instruction.

In strongly conceived performance-based programs the trainee is assessed on the basis of an observed performance of the occupational skill in a setting that is as close as possible to that of the occupation. Another, less defensible, interpretation of performance is the trainee's response to paper-and-pencil evaluation devices.

Individualized Instruction

Individualized instruction, unlike CBVE, places its emphasis on the method of instruction, not on content, assessment procedures, or standards of performance. It can be defined as instructional activity designed to accommodate individual human differences in background, skill level, aptitudes, interests, and learning styles. It is characterized by:

1. choice of instructional mode and media,
2. adjustment of instruction to learner characteristics and levels of skills,
3. flexibility in the allocation of student time to promote individual learning.

Individualized instruction can be applied to any domain; cognitive, affective, and psychomotor. It can be used to teach traditional topics, concepts, or competencies. In short, it provides a variety of routes to reach a predetermined goal.

Individualized instruction makes it possible for most learners to achieve mastery of the desired instructional content. Because of this, it is often (but not always) allied to competency-based vocational

education to create a potentially powerful, though demanding, approach to occupational training. A close examination of Florida vocational education programs in action reveals that there is much less true individualization of instruction than might be thought. More often, some form of self-paced instruction is combined with individualized instruction and with CBVE.

Self-Paced Instruction

Self-paced instruction is concerned only with the amount of time that is provided for each trainee to learn. The term does not describe the content of the program or the method of instruction employed. In a self-paced program of training the learner is allowed to work at his/her own best rate to achieve the specified knowledge or skill. There is no penalty for learning more slowly or faster than others. This is in contrast to familiar group-paced and time-based instruction (often called "lock-step") in which the entire class is taught as a group, instruction progresses from one topic to the next according to the group's requirements and the teacher's planned schedule, and it is expected that students will reach varying degrees of achievement (from failure to success). In practice, self-paced programs do not provide unlimited time to learn; the trainee is expected to make continuing progress and to learn at a rate commensurate with occupational expectations.

Most self-paced programs rely heavily on modularized instructional materials (like learning guides) or computer programs to deliver and structure routine instruction. Training programs that are self-paced may also be individualized or competency-based. However, many self paced programs are neither individualized nor competency based. Many effective programs combine self-paced instruction and individualized instruction to help deliver competency-based vocational education.

Open-Entry/Open-Exit

Open-entry/open-exit enrollment is an administrative device designed to make competency-based, self-paced, and individualized instruction more feasible and useful. It simply allows the trainee to:

1. enter the vocational program at virtually any time an appropriate work station is available,

2. exit the program without penalty whenever the specified competencies have been achieved, or when an alternative career decision has been made.

Thus, trainees are not enrolled or discharged on only a few dates in the year, neither are they arbitrarily required to remain enrolled in a program for a stipulated number of weeks or years. Occupational programs that are regulated by outside agencies may have difficulty

installing open-entry/open-exit; programs in secondary schools may not be able to use this device at all. In practice, many postsecondary schools modify open-entry procedures somewhat by providing for weekly, monthly, or quinmester enrollment. It is not essential that CBVE programs provide for open-entry/open-exit enrollment, but it greatly facilitates the CBVE approach to vocational instruction, with benefits both to the trainees and to the institution.

Personalized Education

Personalized education is a special training program of occupational competencies designed to meet the unique needs of certain individual students. The term "personalized" is used to describe how a package of instruction fits into the training opportunities of an institution. Personalized education is designed to serve a specific and one-time need; a particular personalized program does not become a part of the regular offerings of an institution. Competencies to be achieved may be selected cooperatively by student and instructor from among those offered by the institution, in some cases without regard to formal programs of study or conventional courses. Personalized training programs for designated small groups of learners may also be developed and delivered to meet the expressed needs of a community or a local employer.

Students are considered as having completed the personalized program when they have demonstrated acceptable performance of the selected competencies. Logically, personalized education programs are most always competency-based. At present however, few Florida institutions are known to provide personalized vocational education.

A Working Definition of Competency-Based Vocational Education

Early in the project it became evident that a comprehensive working definition of competency-based vocational education would facilitate the work of the project. There are a number of uses for such a clear and complete working definition: (1) it presents a description of operational CBVE programs on which most experts in the field can agree; (2) it allowed the staff to differentiate among programs as to the degree and extent of CBVE implementation; (3) it served to facilitate communication between project staff and vocational educators as to what is meant by competency-based vocational education.

After a draft definition was developed by project staff it was submitted to the advisory committee for review and reaction. Modifications suggested by this group were incorporated, and the revised definition was presented to each of the force field groups for further input. The definition was again revised, refined, and finalized by project staff, and has proven to be a useful document.

In developing the working definition the project staff paid particular attention to the recently distributed document, Individualized Competency-Based Vocational Education: A Position Paper for Florida. The project working definition does not conflict with the position paper, but places a somewhat different emphasis on the essential elements of CBVE, and gives more specific criteria and characteristics of CBVE programs in succinct form.

Unlike some other descriptions of CBVE, our working definition presents just two essential elements for this mode of instruction; rigorous competency identification, and performance assessment of each competency. These are considered unarguable and unalterable. With these two essential elements in place, a vocational program can indeed be considered competency-based. Without them, CBVE cannot be said to exist, no matter how slick the management system or how systematic the instruction. Unfortunately, many existing vocational programs labeled as competency-based are weak in this the very foundation of CBVE.

The other category of characteristics or elements of CBVE we have chosen to call "facilitating." Vocational programs can be adjudged as being competency-based even though not all of the facilitating characteristics are discernable. These elements do allow the CBVE program to function smoothly, meet student learning needs more fully, and in short reach the full potential of the competency-based approach. Most of the effective CBVE programs now in operation exhibit most of the facilitating elements. No vocational educator, however, should contend that CBVE is not attainable in his/her program because not all the facilitating elements can be incorporated.

COMPETENCY-BASED VOCATIONAL EDUCATION

A WORKING DEFINITION

A vocational education program is considered to be competency-based when it meets the following standards:

1. The program fully satisfies the criteria included in two essential categories (i.e., program competencies, and competency assessment).

2. The program exhibits most of the characteristics listed in two facilitating categories (i.e., instructional procedures, and administrative procedures).

The categories and indicators of each category are listed below.

ESSENTIAL CATEGORIES

PROGRAM COMPETENCIES: The competencies that students are expected to achieve are:

1. derived from a rigorous analysis of the occupation,

2. verified by a committee of competent practitioners or their immediate supervisors (when they exist),

3. stated in terms of tasks performed by incumbent practitioners,

4. known by the student in advance of instruction.

COMPETENCY ASSESSMENT: Student mastery of the stated competencies is assessed so that:

1. students are required to perform tasks in a manner similar to those performed by incumbents in the occupation,

2. each student is individually assessed on each competency or cluster of competencies,

3. Related cognitive knowledge and desired attitudes are integral parts of competency assessment,

4. standards used in assessment are those expected of those entering that level of work, not other students,

5. criteria used in assessment are known by the student, in advance of assessment.

FACILITATING CATEGORIES

INSTRUCTIONAL PROCEDURES: The instruction is designed so that:

1. instructional materials are keyed to competencies,
2. environments that duplicate or simulate the work place are available to students during competency development,
3. basic knowledge or background theory is learned as it is needed to support competency development,
4. each student is given continuous and detailed feedback on competency development,
5. a variety of learning styles and teaching strategies are provided for,
6. students with appropriate prerequisite skills and knowledge may bypass instruction on competencies already mastered,
7. students can progress through the program at different rates.

ADMINISTRATIVE PROCEDURES: The program is organized and supported so that:

1. program completion is based on satisfactory mastery of all competencies.
2. students can enter and exit the program at different times,
3. individual student records are maintained and reflect student progress at a given point in time,
4. materials, space, and equipment are available when needed by students and instructors,
5. the record-keeping system permits student transfer into and out of the program without requiring duplication of instruction on mastered competencies,
6. a requirement of a number of hours of instruction is removed from the criteria for program completion,
7. records of competency mastery are provided to students and prospective employers,
8. student grades, if used, reflect the level of achievement within competency mastery; in some programs, speed of learning may also be an appropriate factor in grading,
9. credit, if awarded, is given for competencies achieved as a result of instruction and for previously mastered competencies,
10. student fees are individually assessed and are based on the time actually spent in the program and instructional resources used.

METHODOLOGY

Project Planning

Twelve major activities were identified for the project. These activities are depicted graphically on the following page using a PERT format. Each activity is identified by an alpha character. Each major activity consisted of several "tasks" and subtasks." Collectively, the project consisted of 117 tasks and subtasks, organized according to major activities in Gantt format on the Project Schedule. The Project Schedule was the basic planning tool used to control the project, and as such, was subjected to periodic modification and revision as the project progressed.

Project Advisory Committee

A project advisory committee of five members was selected and appointed to oversee the work of the project. In order to provide as wide a representation as possible, members were selected to include administrators and instructors of area vocational centers and community colleges from a number of geographic regions of the state. Appendix A lists the advisory committee members and includes the agendas for each of the three committee meetings.

Literature Search

A search and review of relevant literature was conducted to identify barriers to CBVE and to locate implementation strategies useful in overcoming barriers. Computer searches of the Florida Educational Information Service (FEIS) database, the Educational Resources Information Center (ERIC) database, Dissertation Abstracts database, and a manual search of subjects including a bibliography on change, staff development and CBVE, barriers to CBVE, and implementing and managing CBVE yielded approximately 65 items related to our purpose. These materials included articles, research reports, dissertations, CBVE project implementation reports, and military training documents.

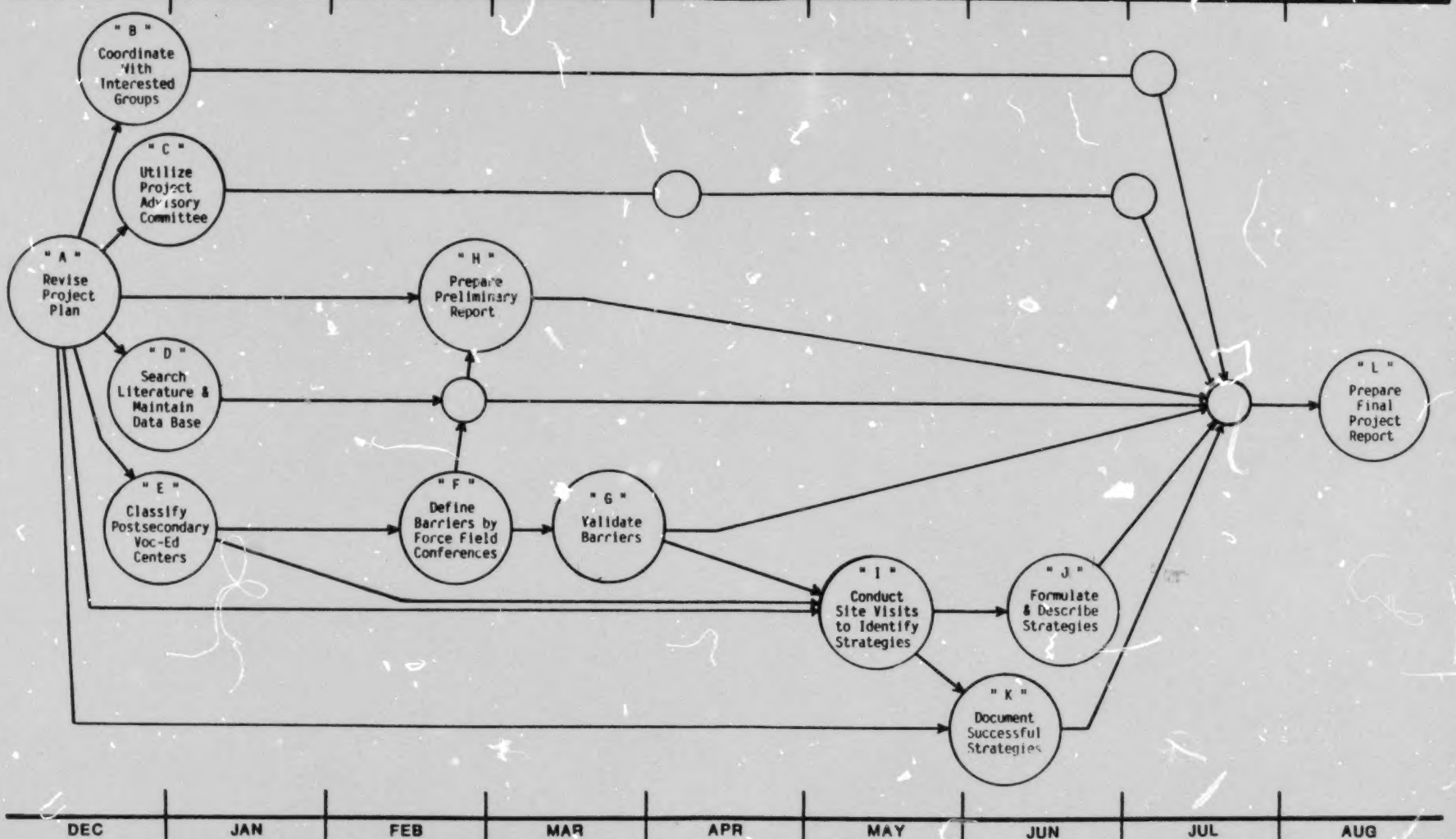
The development of this project's database was a continuing process as shown in the preceding Project Schedule. The data obtained through the literature search was used to supplement and further verify the barriers identified during the force-field analysis sessions that will be described in a later section of this report. Additionally, the literature search provided descriptions of implementation strategies that were used in the development of the section of this report on specific solution strategies.

Barriers to the implementation of CBVE found in the literature provided support for of many of the barriers identified through the force-field analysis sessions. Most frequently found were those barriers related to personnel--their attitudes, knowledge of CBVE, commitment, and time necessary to develop CBVE programs. Knaak (1980)

PROJECT SCHEDULE - SUMMARY

PROJECT: IDENTIFICATION AND DESCRIPTION OF BARRIERS FOR IMPLEMENTATION OF COMPETENCY-BASED VOCATIONAL EDUCATION (CBVE)

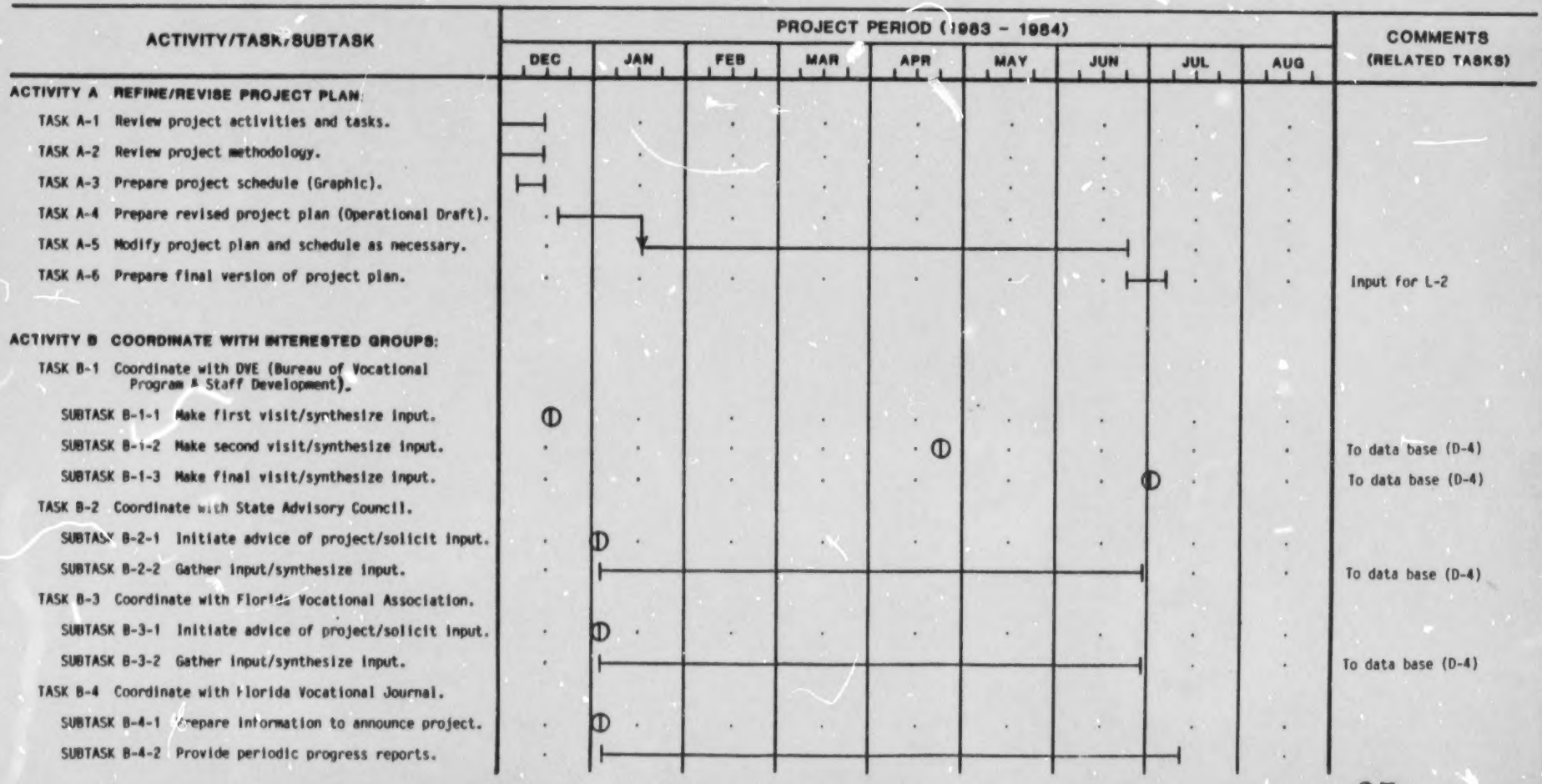
REVISED: 3/1/84
DATE: 1/11/84



PROJECT SCHEDULE

DATE: DECEMBER 18, 1983 REVISED: MARCH 1,1984

PROJECT TITLE: IDENTIFICATION AND DESCRIPTION OF BARRIERS FOR IMPLEMENTATION OF COMPETENCY-BASED VOCATIONAL EDUCATION


ACTIVITY/TASK/SUBTASK
PROJECT PERIOD (1983 - 1984)
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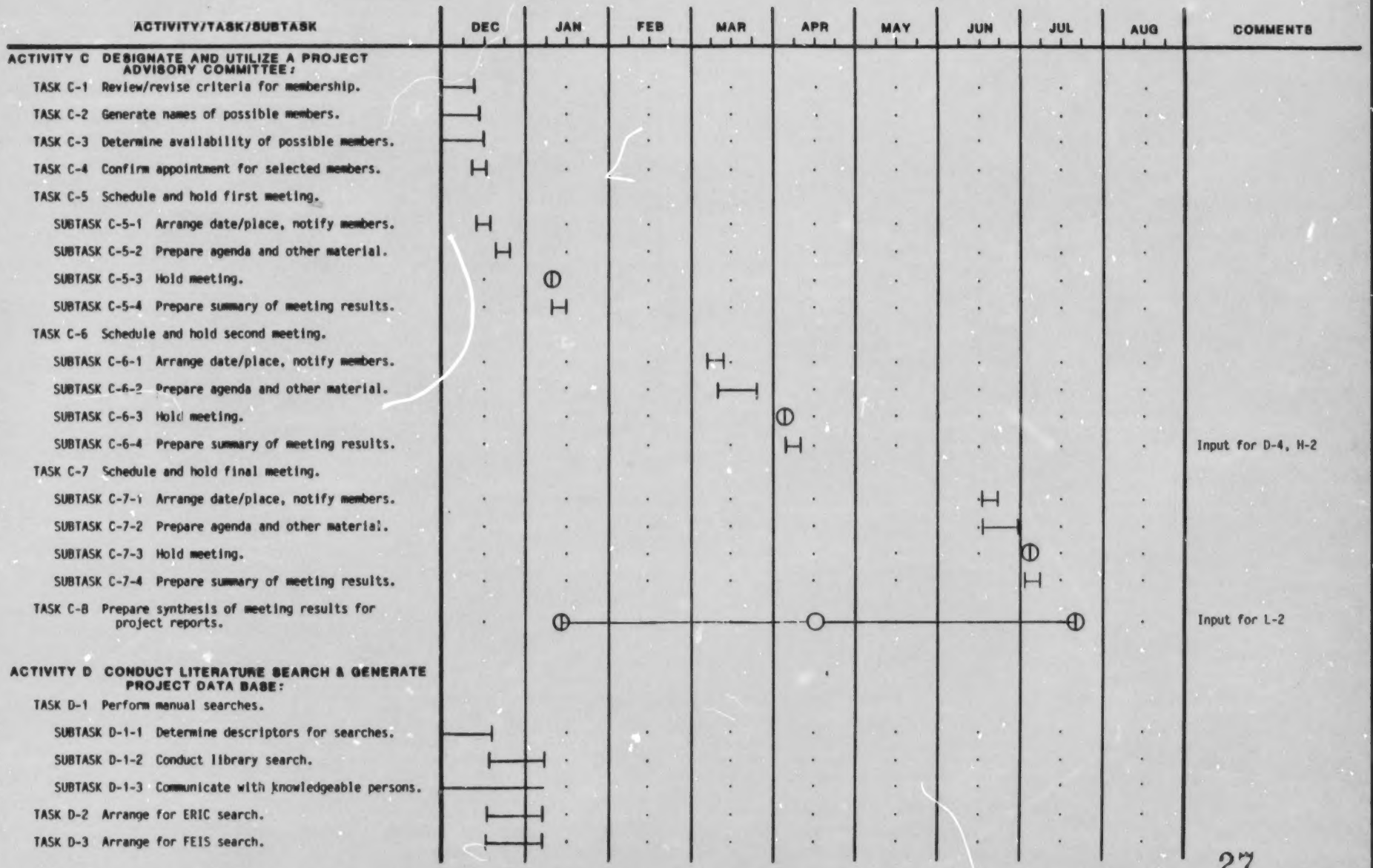
COMMENTS (RELATED TASKS)
ACTIVITY A REFINE/REVISE PROJECT PLAN:
TASK A-1 Review project activities and tasks.
TASK A-2 Review project methodology.
TASK A-3 Prepare project schedule (Graphic).
TASK A-4 Prepare revised project plan (Operational Draft).
TASK A-5 Modify project plan and schedule as necessary.
TASK A-6 Prepare final version of project plan.
Input for L-2
ACTIVITY B COORDINATE WITH INTERESTED GROUPS:
TASK B-1 Coordinate with DVE (Bureau of Vocational Program & Staff Development).
SUBTASK B-1-1 Make first visit/synthesize input.
SUBTASK B-1-2 Make second visit/synthesize input.
To data base (D-4)
SUBTASK B-1-3 Make final visit/synthesize input.
To data base (D-4)
TASK B-2 Coordinate with State Advisory Council.
SUBTASK B-2-1 Initiate advice of project/solicit input.
SUBTASK B-2-2 Gather input/synthesize input.
To data base (D-4)
TASK B-3 Coordinate with Florida Vocational Association.
SUBTASK B-3-1 Initiate advice of project/solicit input.
SUBTASK B-3-2 Gather input/synthesize input.
To data base (D-4)
TASK B-4 Coordinate with Florida Vocational Journal.
SUBTASK B-4-1 Prepare information to announce project.
SUBTASK B-4-2 Provide periodic progress reports.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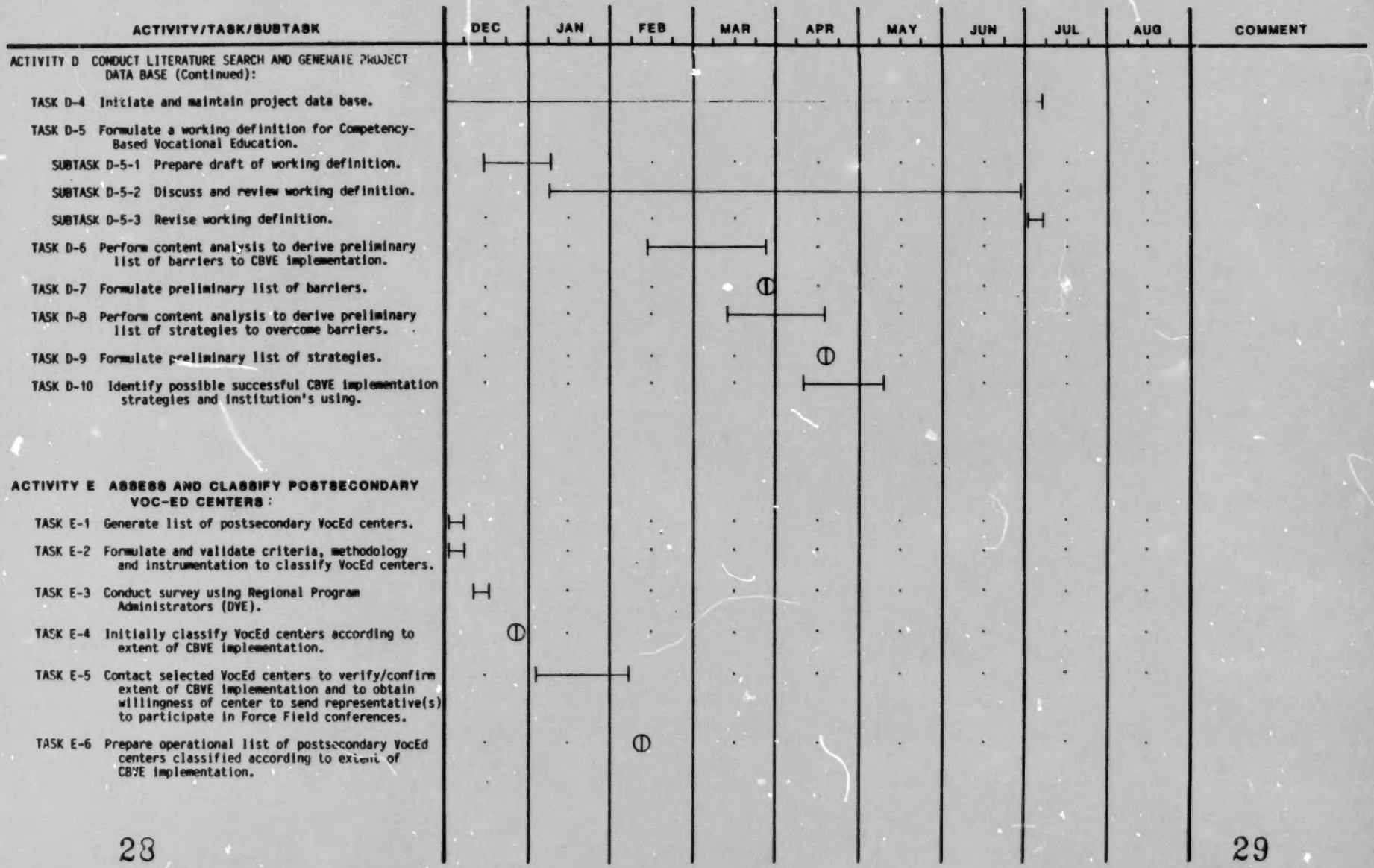
ACTIVITY C DESIGNATE AND UTILIZE A PROJECT ADVISORY COMMITTEE:
TASK C-1 Review/revise criteria for membership.
TASK C-2 Generate names of possible members.
TASK C-3 Determine availability of possible members.
TASK C-4 Confirm appointment for selected members.
TASK C-5 Schedule and hold first meeting.
SUBTASK C-5-1 Arrange date/place, notify members.
SUBTASK C-5-2 Prepare agenda and other material.
SUBTASK C-5-3 Hold meeting.
SUBTASK C-5-4 Prepare summary of meeting results.
TASK C-6 Schedule and hold second meeting.
SUBTASK C-6-1 Arrange date/place, notify members.
SUBTASK C-6-2 Prepare agenda and other material.
SUBTASK C-6-3 Hold meeting.
SUBTASK C-6-4 Prepare summary of meeting results.
Input for D-4, H-2
TASK C-7 Schedule and hold final meeting.
SUBTASK C-7-1 Arrange date/place, notify members.
SUBTASK C-7-2 Prepare agenda and other material.
SUBTASK C-7-3 Hold meeting.
SUBTASK C-7-4 Prepare summary of meeting results.
TASK C-8 Prepare synthesis of meeting results for project reports.
Input for L-2
ACTIVITY D CONDUCT LITERATURE SEARCH & GENERATE PROJECT DATA BASE:
TASK D-1 Perform manual searches.
SUBTASK D-1-1 Determine descriptors for searches.
SUBTASK D-1-2 Conduct library search.
SUBTASK D-1-3 Communicate with knowledgeable persons.
TASK D-2 Arrange for ERIC search.
TASK D-3 Arrange for FEIS search.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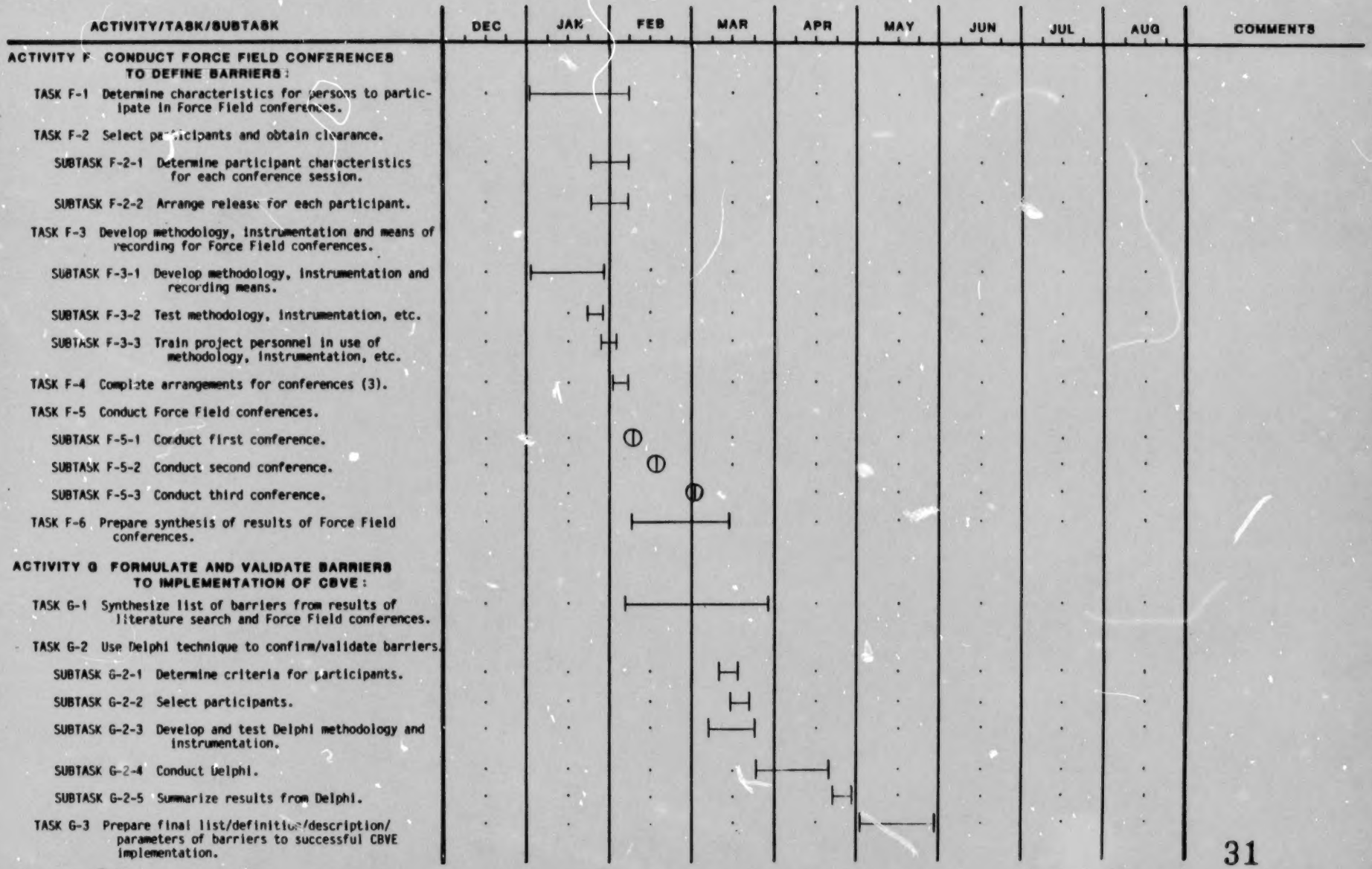
ACTIVITY D CONDUCT LITERATURE SEARCH AND GENERATE PROJECT DATA BASE (Continued):
TASK D-4 Initiate and maintain project data base.
TASK D-5 Formulate a working definition for Competency-Based Vocational Education.
SUBTASK D-5-1 Prepare draft of working definition.
SUBTASK D-5-2 Discuss and review working definition.
SUBTASK D-5-3 Revise working definition.
TASK D-6 Perform content analysis to derive preliminary list of barriers to CBVE implementation.
TASK D-7 Formulate preliminary list of barriers.
TASK D-8 Perform content analysis to derive preliminary list of strategies to overcome barriers.
TASK D-9 Formulate preliminary list of strategies.
TASK D-10 Identify possible successful CBVE implementation strategies and institution's using.
ACTIVITY E ASSESS AND CLASSIFY POSTSECONDARY VOC-ED CENTERS:
TASK E-1 Generate list of postsecondary VocEd centers.
TASK E-2 Formulate and validate criteria, methodology and instrumentation to classify VocEd centers.
TASK E-3 Conduct survey using Regional Program Administrators (DVE).
TASK E-4 Initially classify VocEd centers according to extent of CBVE implementation.
TASK E-5 Contact selected VocEd centers to verify/confirm extent of CBVE implementation and to obtain willingness of center to send representative(s) to participate in Force Field conferences.
TASK E-6 Prepare operational list of postsecondary VocEd centers classified according to extent of CBVE implementation.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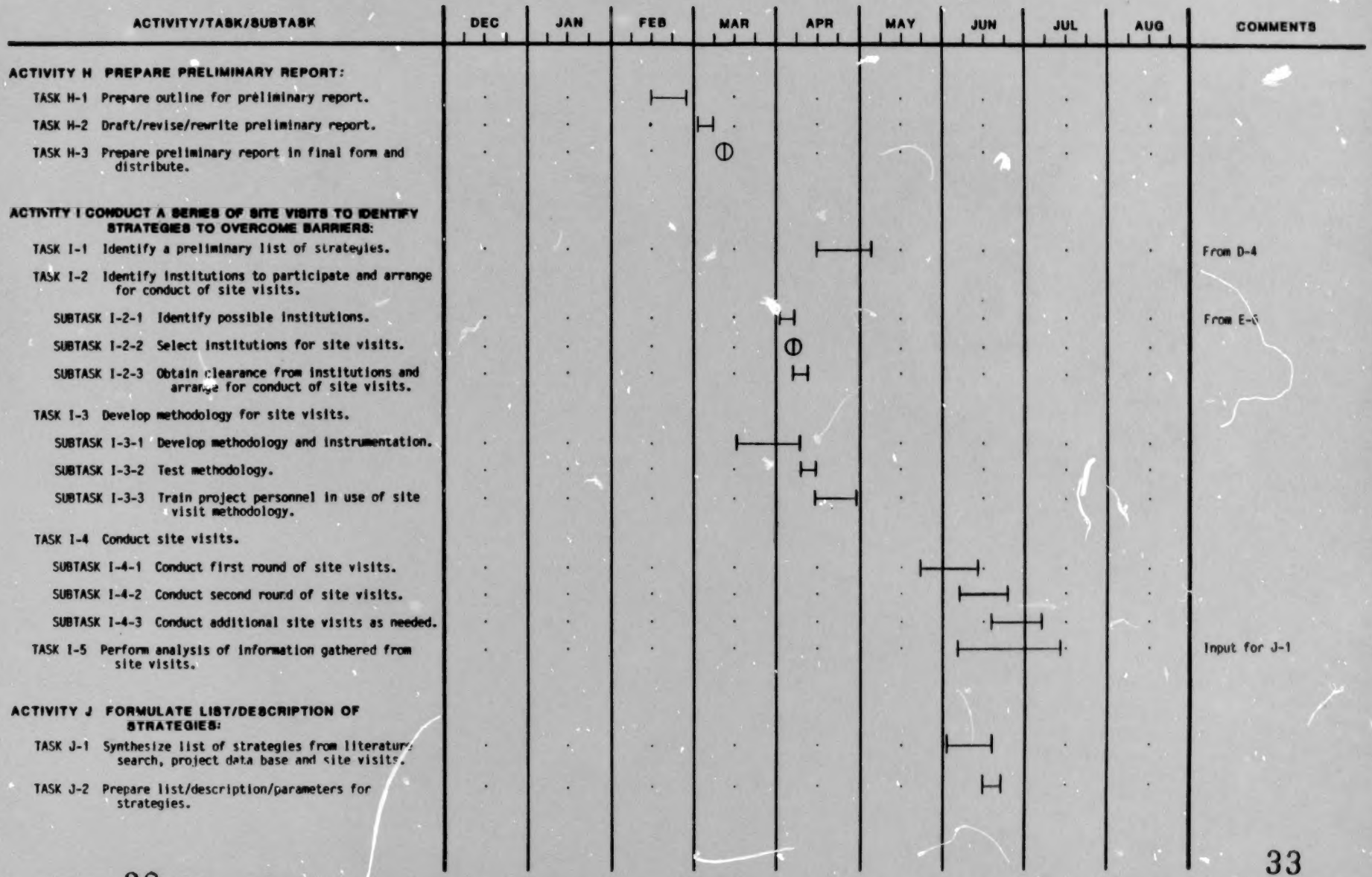
ACTIVITY F CONDUCT FORCE FIELD CONFERENCES TO DEFINE BARRIERS:
TASK F-1 Determine characteristics for persons to participate in Force Field conferences.
TASK F-2 Select participants and obtain clearance.
SUBTASK F-2-1 Determine participant characteristics for each conference session.
SUBTASK F-2-2 Arrange release for each participant.
TASK F-3 Develop methodology, instrumentation and means of recording for Force Field conferences.
SUBTASK F-3-1 Develop methodology, instrumentation and recording means.
SUBTASK F-3-2 Test methodology, instrumentation, etc.
SUBTASK F-3-3 Train project personnel in use of methodology, instrumentation, etc.
TASK F-4 Complete arrangements for conferences (3).
TASK F-5 Conduct Force Field conferences.
SUBTASK F-5-1 Conduct first conference.
SUBTASK F-5-2 Conduct second conference.
SUBTASK F-5-3 Conduct third conference.
TASK F-6 Prepare synthesis of results of Force Field conferences.
ACTIVITY G FORMULATE AND VALIDATE BARRIERS TO IMPLEMENTATION OF CBVE:
TASK G-1 Synthesize list of barriers from results of literature search and Force Field conferences.
TASK G-2 Use Delphi technique to confirm/validate barriers.
SUBTASK G-2-1 Determine criteria for participants.
SUBTASK G-2-2 Select participants.
SUBTASK G-2-3 Develop and test Delphi methodology and instrumentation.
SUBTASK G-2-4 Conduct Delphi.
SUBTASK G-2-5 Summarize results from Delphi.
TASK G-3 Prepare final list/definition/description/parameters of barriers to successful CBVE implementation.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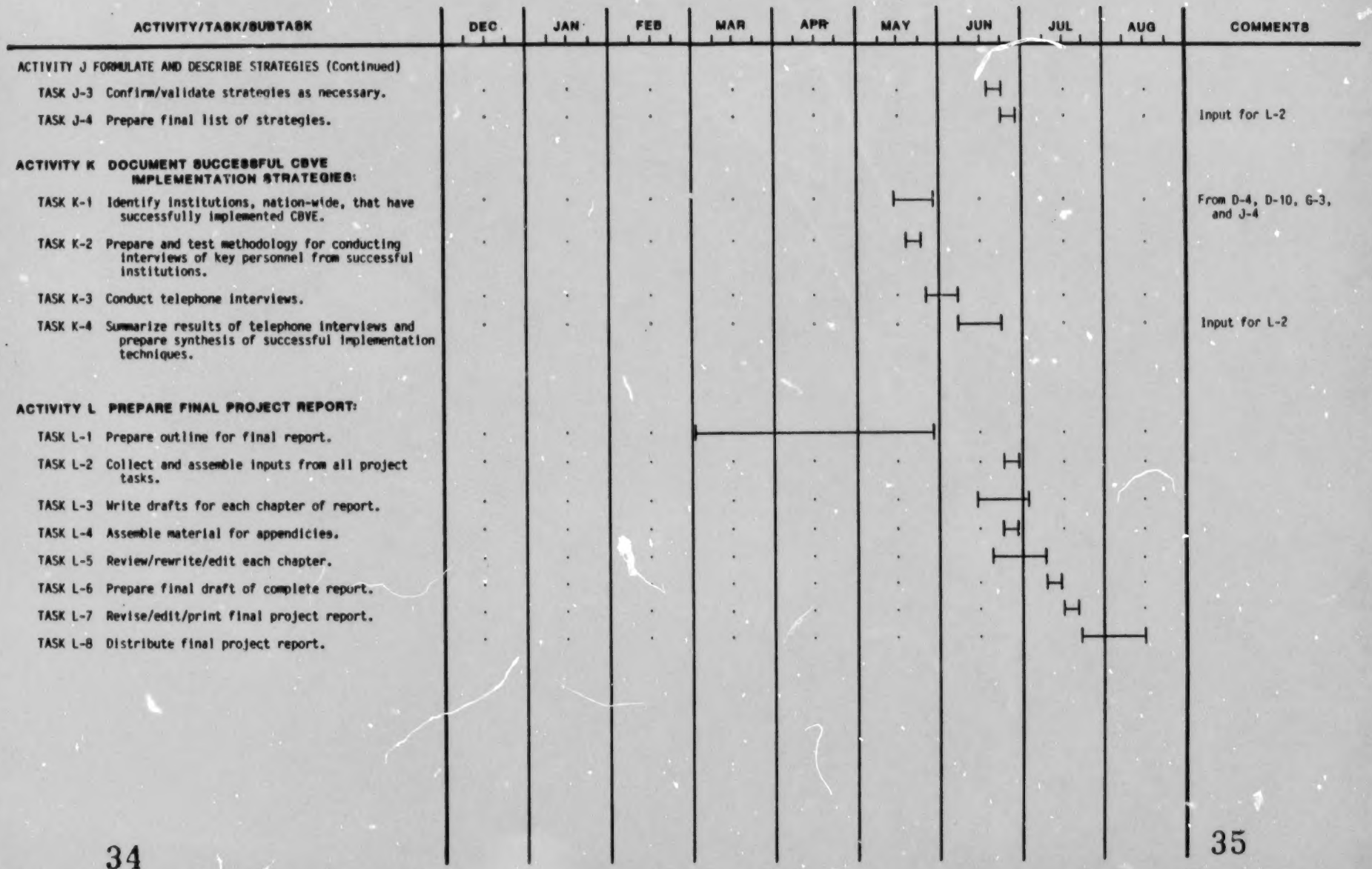
ACTIVITY H PREPARE PRELIMINARY REPORT:
TASK H-1 Prepare outline for preliminary report.
TASK H-2 Draft/revise/rewrite preliminary report.
TASK H-3 Prepare preliminary report in final form and distribute.
ACTIVITY I CONDUCT A SERIES OF SITE VISITS TO IDENTIFY STRATEGIES TO OVERCOME BARRIERS:
TASK I-1 Identify a preliminary list of strategies.
From D-4
TASK I-2 Identify institutions to participate and arrange for conduct of site visits.
SUBTASK I-2-1 Identify possible institutions.
From E-5
SUBTASK I-2-2 Select institutions for site visits.
SUBTASK I-2-3 Obtain clearance from institutions and arrange for conduct of site visits.
TASK I-3 Develop methodology for site visits.
SUBTASK I-3-1 Develop methodology and instrumentation.
SUBTASK I-3-2 Test methodology.
SUBTASK I-3-3 Train project personnel in use of site visit methodology.
TASK I-4 Conduct site visits.
SUBTASK I-4-1 Conduct first round of site visits.
SUBTASK I-4-2 Conduct second round of site visits.
SUBTASK I-4-3 Conduct additional site visits as needed.
TASK I-5 Perform analysis of information gathered from site visits.
Input for J-1
ACTIVITY J FORMULATE LIST/DESCRIPTION OF STRATEGIES:
TASK J-1 Synthesize list of strategies from literature search, project data base and site visits.
TASK J-2 Prepare list/description/parameters for strategies.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ACTIVITY J FORMULATE AND DESCRIBE STRATEGIES (Continued)
TASK J-3 Confirm/validate strategies as necessary.
TASK J-4 Prepare final list of strategies.
Input for L-2
ACTIVITY K DOCUMENT SUCCESSFUL CBVE IMPLEMENTATION STRATEGIES:
TASK K-1 Identify institutions, nation-wide, that have successfully implemented CBVE.
From D-4, D-10, G-3, and J-4
TASK K-2 Prepare and test methodology for conducting interviews of key personnel from successful institutions.
TASK K-3 Conduct telephone interviews.
TASK K-4 Summarize results of telephone interviews and prepare synthesis of successful implementation techniques.
Input for L-2
ACTIVITY L PREPARE FINAL PROJECT REPORT:
TASK L-1 Prepare outline for final report.
TASK L-2 Collect and assemble inputs from all project tasks.
TASK L-3 Write drafts for each chapter of report.
TASK L-4 Assemble material for appendicies.
TASK L-5 Review/rewrite/edit each chapter.
TASK L-6 Prepare final draft of complete report.
TASK L-7 Revise/edit/print final project report.
TASK L-8 Distribute final project report.

takes the position that the success of CBVE implementation depends on the commitment of staff and administration. This idea is supported by Finch and Horne (1982) who identified the "involvement of individuals not committed to competency-based education" as a primary deterrent to CBVE implementation. The lack of administrative commitment and active support were also cited as barriers by Slaugh (1983) and Cornell University (1980). The lack of time and resources to provide needed time for faculty to develop CBVE programs were also noted as substantial deterrents to CBVE implementation (Carroll, 1979; Slaugh, 1983).

While many of the barriers identified through project activities were found to be supported in the literature, several additional barriers were found in the literature. These new barriers were:

- Previous negative experiences of faculty stand in the way of CBVE implementation.
- Persons responsible for curricula change are not provided with appropriate authority and influence to make decisions and carry out plans.
- There is a lack of coordination between state department and LEAs.
- Faculty believe that programs in which secondary-level students are combined in classes with postsecondary-level students are more difficult for CBVE implementation.
- Competency-based materials lack depth and do not place enough emphasis on learning theory for highly technical programs.
- Curricula materials sent by the state are inadequate or too little, too late.
- There is a lack of a comprehensive state CBVE implementation plan and methodology.
- There are few, if any, meaningful state-provided incentives (financial and non-financial) to institutions, administrators, and faculty to implement and maintain CBVE.

Strategies for successful implementation of CBVE found in the literature provided potential solutions to identified barriers. Finch and Horne (1982) and Ridley and Farrar (1982) identified several factors that are important to and enhance the chances of successful implementation. While the resistance to change is in itself a barrier to implementing any innovation, the research of Beuke (1978) supports the conclusion that it is possible to engineer CBVE program implementation through close attention to the innovation (CBVE) itself and the development of a specific statewide implementation strategy based on user and innovation characteristics. We found throughout all project activities that the lack of faculty knowledge about CBVE was pervasive and presented a formidable barrier to overcome. Vocational teacher education programs at universities provide potential for overcoming this

barrier through the methods taught and used in the program. Vocational teacher education programs using the performance-based teacher education (PBTE) approach have contributed to vocational education classrooms by increasing the use of CBVE (Adams, et al., 1981).

In its report to the Florida State Advisory Council on Vocational and Technical Education, "An Evaluation of Florida's Policies, Expenditures, and Activities Related to Competency-Based Vocational Education." MGT of America identified several major resource needs if CBVE is to be fully implemented, including:

- More and/or better competency-based instructional materials,
- More and better in-service training regarding CBVE, and
- Released time from teaching duties to convert existing programs to be more competency-based.

The lack of these resources for teachers was also found in our research to be barriers to CBVE implementation. MGT (1984) findings also showed that administrators felt the need for more incentives from the state to implement CBVE more fully. Even though the MGT report cited the millions of dollars spent on the acquisition of CBVE curriculum materials as a state-provided incentive, our research indicates that there is still a real absence of adequate, up-to-date CBVE instructional materials for most programs. The lack of sufficient incentives for administrators is due to the absence of a "decision making apparatus" in the state providing incentives to implement CBVE statewide. Actions that would provide needed incentives to further the statewide implementation of CBVE are outlined in the MGT report. These recommended actions are for all organizations involved with vocational education in Florida from the legislature down to individual schools and colleges.

The barrier that had the highest composite score when we combined the strength of perceived existence and the strength of perceived influence scores related to the inadequacy of current funding methods to provide for CBVE program modification and start up. A clear description of FTE generation based on enrollment patterns in open-entry/open-exit CBVE programs and conventionally scheduled programs shows that "there is no difference in FTE generated between traditional and competency-based programs where student applicant backlogs exist," (MGT, 1984).

Selection of Institutions for Gathering Information

From information provided by the 1983-84 Florida Education Directory, it was determined that 59 institutions provide vocational education at the postsecondary level. These institutions are of two major types: area vocational-technical centers and community colleges or junior colleges that offer both academic and vocational programs. Community and junior colleges are further differentiated into those that are Designated Area Vocational Education Schools and those that are not so designated. Appendix B lists these 59 institutions.

Activity E of the Project Schedule provided for the conduct of several surveys for the purpose of learning the extent to which the competency-based approach has been implemented by institutions providing vocational education at the postsecondary level. The purpose of Activity E, Assess and Classify Postsecondary Vocational Education Centers, was to ensure that a representative sample of postsecondary institutions was included in the force field conferences and the site visits.

Once the categorization of the institutions was determined, it was then necessary to learn the extent to which the institutions had implemented CBVE. Two surveys were conducted for this purpose. First, to obtain broad general information covering all 59 institutions, a survey of the five regional program administrators was conducted using the materials included as Appendix C.

Preliminary discussions by members of the project staff identified a problem, and a possible barrier, in the confusion and lack of common understanding that appeared to exist on the part of both instructors and administrators with respect to a definition of CBVE. In order to clarify this matter for survey purposes, a six-point list of the characteristics of CBVE was formulated, derived principally from the document: Individualized Competency-Based Vocational Education - A Position Paper for Florida, State of Florida, Department of Education, 1983.

Actual responses were obtained by telephone before December 31, 1983. The information obtained was used as a basis for selecting a sample of institutions to which another survey form was sent and from which participants for the force field analysis sessions and potential locations for site visits could be identified. Based on information provided by the regional program administrators, a sample of 37 institutions was selected. The proposed sample was intended to be representative of Florida postsecondary institutions in terms of geographical area of the state, type of institution (i.e., area Voc-Tech Centers referred to as "area centers" and community and junior colleges referred to as "community colleges"), and reported current extent of CBVE implementation. Appendix D contains the survey materials that were sent to each of the 37 institutions in the sample. The names of the 37 institutions that made up the sample is shown in Appendix B.

Responses to the survey questionnaire were gathered by telephone from the appropriate administrator. Information was obtained about the number of instructional programs in which CBVE had been either substantially implemented, moderately implemented, minimally implemented or not implemented at all. As indicated on the response form (Appendix D), these four degrees of implementation were defined in terms of a 100 percent scale as follows:

Substantial Implementation:	70% to 100%
Moderate Implementation:	31% to 69%
Minimum Implementation:	1% to 30%
Not Implemented at All:	0%

Responses to the survey questionnaire were obtained for 31 of the 37 institutions. These 31 institutions were distributed as follows:

	Area Centers	Community Colleges	Total
Region I	5	3	8
Region II	2	3	5
Region III	3	2	5
Region IV	4	2	6
Region V	4	3	7
Total	18	13	31

Information about the general CBVE implementation at each institution, the programs offered at each institution, and the extent of CBVE implementation for such programs was used to select institutions and persons for participation in the three force-field sessions. This information was also used to select the institutions to participate in the site visits.

Survey results can also be used to infer the extent of general CBVE implementation throughout the state. Such an inference must, of course, be made within the constraint that despite the use of the list of CBVE characteristics, there still is not uniformity of understanding of this approach. When the concept of CBVE is not universally understood, perceptions of implementation are naturally subject to some variation. Another constraint that should be recognized is that the institutions were reporting on themselves without any opportunity for independent verification. Nevertheless, Table 1 below reflects the number of programs reported at each degree of CBVE implementation and the relative extent of CBVE implementation for area centers, community colleges, and for the total.

Table 1

Type Institution	No. Programs	CBVE Implementation			
		Substantial	Moderate	Minimum	Not at All
Area Centers	520	265	145	88	22
Percent	100%	51%	28%	17%	4%
Community Colleges	499	149	157	126	67
Percent	100%	30%	32%	25%	13%
Total	1,019	414	302	214	89
Percent	100%	40%	30%	21%	9%

Survey results can also be used to infer the overall extent of CBVE implementation for specific instructional programs. It is recognized that the survey did not attempt to make a complete inventory of all instructional programs being offered by the institutions surveyed. Rather, programs were cited only as examples for the four degrees of CBVE implementation and the institutions were free to identify exemplary

programs. Notwithstanding the apparent incomplete nature of program information, the citation of a program as an example for CBVE implementation can be used in conjunction with citations by other institutions of the same program in order to make some generalizations with respect to CBVE implementation for that program for those institutions citing the program. The number of times different institutions cite the same program at the same or at different degrees of implementation can be used to express the relative extent of CBVE implementation for the program statewide. By using the midpoint value for each degree of implementation, it is possible to calculate a relative percent of CBVE implementation for each program cited by an institution as follows:

Degree of Implementation	Percent Range	Percent Midpoint
Substantial	70% to 100%	85%
Moderate	31% to 69%	50%
Minimum	1% to 30%	15%
Not at All	0%	0%

Appendix E lists information obtained and calculated for each program cited as an example for CBVE implementation.

Several questions emerge from a review of the program listing in Appendix E. The differences between area centers and community colleges for certain classes of programs opens an avenue for future inquiry. For industrial programs such a HVAC, electronics, welding, automotive mechanics, etc., implementation by area centers appears to be significantly higher than at community colleges. The same relationship seems true for clerical and other business programs. However, the reverse of this situation appears to apply for health occupations and nursing programs. The disparity between the two types of institutions suggests the patterns of barriers are different at community colleges and area vocational centers.

There are also questions that emerge with respect to what factors seem to be operating statewide for programs like electrical wiring, cosmetology, child care and air conditioning that result in citation by many institutions of these programs as examples of higher levels of CBVE implementation. A similar question would apply for the programs at the lower end of the list in Appendix E.

Finally, the survey results also generated some comments from administrators about possible barriers to implementing CBVE. These comments are summarized as follows:

- Implementation and operation of CBVE tends to cost more than conventional instruction.
- Individualization as a requirement for CBVE was a major factor in differentiating levels of CBVE implementation. Individualization should not be required for all vocational programs.

- Some vocational programs in a community college are not under the supervision of the occupational dean. For this reason, such programs tend not to implement CBVE.

- Community colleges have difficulty in defining a vocational or occupational program. One view was to list Associate of Science programs and certificate programs and to count the total even though the certificate program represented a stop-out level within an Associate of Science program for the same or similar occupation. Another view was to define programs in terms of credit and non-credit. For community colleges, the trades occupations, such as welding and carpentry are often referred to as adult, non-credit programs.

- The characteristics cited to define CBVE for the survey did not mention the time-required-to-learn. The idea that a student can stay in a learning situation for a very long time is disliked by some employers and advisory committee members. Some way should be found to incorporate the "time needed to learn" into the CBVE concept.

- Implementation and operation of CBVE require a large volume of materials that must be replaced periodically. The need for replacement of the materials originally provided when the program was first implemented now presents problems.

- Long-term faculty members do not adapt easily to new ideas like CBVE. It may be necessary just to wait until these faculty members leave by attrition before implementation can fully occur.

- Licensure requirements specified by state regulating agencies and by accrediting bodies include actual hours that must be devoted to certain subjects despite whether the student has completed the instructional program in fewer hours.

- CBVE imposes a lower student-teacher ratio than does conventional instruction.

- Open-entry/open-exit is a factor that should not be critical in the definition of CBVE, Many programs can be CBVE in the basic sense and not incorporate the open/entry characteristic.

- The multi-campus community college creates problems of control and coordination for the same program being offered at more than one campus. Use of CBVE intensifies such problems.

Force-Field Analysis Sessions

The first major thrust of the project was to identify and confirm a series of barriers to the implementation of CBVE. From the start of the project, it was acknowledged by the project staff that a differentiation must be established and maintained between the actual or factual

existence of a barrier and the perceptual existence of that barrier by one or more persons involved with CBVE.

The methodology used both to identify and to confirm barriers was by design intended to focus on perceived barriers rather than attempt to establish the factual basis for any barrier. Indeed, our literature review clearly supports the notion that if a particular barrier is perceived to exist, it will just as effectively block progress as if its factual basis were proved. A factual barrier is, of course, a barrier whose factual basis has been established, but it still represents a matter of perception to persons who may be unaware or unconvinced of its factual grounding. Thus, in all probability, the set of perceived barriers includes those that are factual as well as those that are not objectively factual. Ironically, factual barriers are probably less difficult to overcome than those that are primarily perceptual. In any case, we have not attempted to investigate the factual nature of any of the barriers.

Three force-field analysis sessions were held to identify perceived barriers to the implementation of CBVE by identifying forces for and against implementation. Appendix F contains participant lists and agendas for three sessions held at the University of Central Florida, South Orlando Campus, February 10, February 17, and March 2, 1984. Participants at the three sessions as well as the project advisory committee also provided input into the refinement of the working definition of competency-based vocational education.

The three force-field sessions all followed similar procedures. The first phase of each session was a brainstorming session. Only the invited participants were permitted to provide input into the brainstorming, the project staff not participating in the activity. Participants were instructed to identify barriers, or "forces against," and "forces for" the attainment of the stated goal, Full Implementation of CBVE in Postsecondary Vocational Education Programs in the State of Florida.

The brainstorming sessions operated under a series of accepted rules. Participants were asked to state whether the force was "for" or "against" the goal and then to state the force. If there was disagreement about the placement of a force on the "for" or "against" side of the force-field analysis, it was placed on both sides.

The second phase of the force-field analysis required participants to focus on the barriers or forces against goal attainment. A total of 62 barriers were identified and classified into 13 major categories. This categorization activity permitted a review of the items and fostered a discussion of the meaning of the items. The participants in each force-field conference were divided into two groups. The members of each group reached consensus on the rating before the rating was recorded. A force was rated as a "very strong" barrier if its removal was judged to result in measurable movement toward goal attainment. A "weak" rating was given to a force that was judged to make little, if any, difference in goal attainment. Each force was also rated in terms of its ease of documentation.

The barriers identified in each force-field analysis session were compared and a content analysis was performed. The intent of the content analysis was to identify similar forces or barriers listed by the participants in the three independent force-field analysis sessions. The content analysis was performed by one member of the project staff. The three remaining members of the staff independently reviewed the content analysis. Suggestions for changes or modification in the clustering of similar forces were incorporated into the tentative set of perceived barriers presented in the interim report.

Barriers Confirmation Survey

Following their identification, it was considered necessary to confirm the list of barriers on a base broader than that used to identify them. Accordingly, a series of two questionnaires mailed to the same respondents about three weeks apart was used to: (1) confirm the perceived existence of the barriers, (2) assess the relative strength of the perceived existence of the barriers, and (3) assess their relative strength of their perceived influence in affecting implementation of CBVE.

The first questionnaire (Appendix G) was designed to confirm the existence of the perceived barriers identified in the force-field sessions and as a result of the literature search. Respondents were asked to indicate their perception of the strength of the existence of each barrier on a Likert Scale as follows:

(1) I have experienced the barrier personally, I know that it exists;
(2) Although I have not experienced the barrier directly, I know people who have, therefore, I believe that it exists;
(3) I don't know whether it exists or not;
(4) I have not experienced the barrier myself and I have never heard of anyone who has, so I don't believe that it exists;
(5) I know for a fact that the barrier does not exist.

Respondents were also asked to list any additional barriers to the implementation of CBVE they had encountered that were not listed on the questionnaire.

The second questionnaire was developed after the results of the first questionnaire were tabulated so as to include any additional barriers identified by the respondents. The second questionnaire (Appendix H) was designed to obtain perceptions as to the strength of the influence of each barrier on the implementation of CBVE.

Three new barriers were suggested by respondents to the first questionnaire and were included in the second questionnaire. These added barriers were F-9, F-10, and L-9. A total of 65 barriers comprised the list on the second questionnaire.

Respondents were asked to indicate their perception of the strength of the influence of each barrier on a Likert-like scale from 1 (Minimum) to 5 (Maximum). A zero for no influence was also included.

Data Collection

The sample used for the barriers confirmation surveys was drawn from a population consisting of professional educators engaged in different aspects of vocational education at the postsecondary level throughout Florida. This group consisted of:

- DVE Bureau of Program and Staff Development State Staff
- DVE Regional Office Staff
- School District Vocational Directors
- Area Vocational/Technical Center Administrators
- Area Vocational/Technical Center Faculty
- Community College Vocational Administrators
- Community College Faculty

DVE Bureau of Program and Staff Development State Staff, DVE regional staff and district vocational directors were randomly selected from the 1983-84 Florida Education Directory. Each was sent a postcard requesting their participation in the barriers confirmation surveys. Directors of all area vocational/technical centers and occupational deans or directors of all community colleges listed in the 1983-84 Florida Education Directory were contacted by letter and asked to list seven instructors and three administrators to participate in the barriers confirmation surveys.

Invitations to participate in the confirmation survey were sent as follows:

	Population	Invitations to Participate	Acceptances
DVE Staff	19	11	6
DVE Regions	36	19	9
District Voc Ed Directors	67	30	13
Area Voc Ed Centers*	32	32	19
Community Colleges*	28	28	16

* Institutions, not individual persons

The institutional invitations yielded the following survey participants:

66 Area Vocational/Technical Center Administrators
117 Area Vocational/Technical Center Faculty
47 Community College Administrators
100 Community College Faculty

In all, 358 persons were identified to participate in the survey (See Table 2) and each one was mailed a questionnaire. Questionnaire No.1 was returned by 222 persons, representing a 62 percent return rate. Questionnaire No.2 was returned by 163 persons, representing a 46 percent return rate. Table 2 shows the number and percent of persons in each response category to whom both questionnaires were mailed differs slightly from the composition of the categories returning questionnaires, the composition by percent between categories returning questionnaire No.1, and returning Questionnaire No.2 remained practically the same. Accordingly, the reduced number of respondents for Questionnaire No.2 does not appear to have distorted the relative mix of the sample.

Although the 222 persons who returned Questionnaire No.1 and the 163 persons who returned Questionnaire No.2 are referred to as a sample, it must be emphasized that this sample was not a random sample nor was it selected by procedures that could be considered anywhere near that needed to meet the tests of randomness. Accordingly, the use of inferential statistics to interpret survey results would be inappropriate. Rather, simple calculations are used to describe and interpret the results.

Tabulation

For tabulation purposes, factors were assigned to each of the possible Likert-like scale responses like points on the continuum as follows:

		Factor
(1)	I know the barrier exists:	+10
(2)	I believe the barrier exists:	+ 5
(3)	I don't know whether it exists or not:	0
(4)	I don't believe the barrier exists:	- 5
(5)	I know the barrier does not exist	-10

For Questionnaire No.1 a tally sheet was prepared to record the number on the response continuum. An "average" strength of perceived existence score was calculated for each response category and for the total of all responses for each barrier.

TABLE 2

BARRIERS CONFIRMATION SURVEY

Categories	Questionnaires Sent No.1 & No.2		Questionnaire No.1 Returned		Questionnaire No.2 Returned	
	Number	Percent	Number	Percent	Number	Percent
DVE Staff	6	2	4	2	4	2
DVE Regions	9	3	7	3	6	4
District Voc Directors	13	4	9	4	6	4
Area Center Administrators	66	18	52	23	38	23
Area Center Faculty	117	33	68	31	48	29
Area Center Total	183	51	120	54	86	53
Community College Admin.	47	13	31	14	25	15
Community College Faculty	22	100	28	51	23	36
Community College Total	147	41	82	37	61	37
Total Administrators	113	32	83	37	63	39
Total Faculty	217	61	119	54	84	52
Grand Total	358	100	222	100	163	100
Percent	-	-	-	62	-	46

Questionnaire No.2 asked respondents to indicate the strength of their perception of the influence of each barrier on the implementation of CBVE. In order to avoid possible confusion with respect to how respondents may have perceived the existence of a barrier, and how such a perception might affect their perception of the strength of influence of that barrier, in fact existed in making responses to Questionnaire No.2. The possible impact of this assumption will be discussed later.

Responses to Questionnaire No.2 covered five levels of strength of perceived influence for each barrier from 1 (minimum) to 5 (maximum) and zero (for no influence). Question marks and blanks were interpreted and recorded as "I don't know" responses. "I Don't Know" responses were excluded from calculation. Responses indicating that the barrier had no influence were calculated as zeros, and responses indicating discrete strengths from 1 to 5 were calculated using the factors 1 to 5 as multipliers to derive an "average" strength of perceived influence score for each response category and for the total of all responses for each barrier.

Numerical scores for both strength of perceived existence and strength of perceived influence were converted to adjective score expressions. Table 3 reflects the ranges of numerical scores that equate to each of four adjective scores for each of the strengths being assessed. The ranges for each adjective score were determined by dividing the array of all numerical scores arranged in order into four equal, or approximately equal, groups.

Results

Appendix I contains a summary of the assignment of the appropriate adjective score for both strength assessments for each barrier. In addition to the separate adjective scores for each barrier, it was possible also to derive a composite score for each barrier combining both the strength of perceived existence and the strength of perceived influence. This was accomplished by adding the individual scores for each strength. After arranging the barriers in order of their composite scores, the top 22 (or upper one-third) of the total 65 barriers are:

1. G-2: Traditional methods of funding do not provide funds needed for program modification, CBVE start-up, additional equipment and materials, or staff time for program development.

2. B-3: Faculty are not provided the released time they need to develop and reorganize programs into a CBVE format.

3. F-10: Program competencies are not standardized among state vocational schools. Thus, students who transfer have difficulty in completing programs and may have to repeat segments.

4. I-3: Many in-service sessions, workshops, and conferences are not competency-based.

TABLE 3

CONVERSION FROM NUMERICAL SCORE
TO ADJECTIVE SCORE

STRENGTH OF EXISTENCE	
Weak	Negative to 1.29
Moderate	1.30 to 2.64
Strong	2.65 to 3.64
Substantial	3.65 to 5.11
STRENGTH OF INFLUENCE	
Weak	0 to 3.19
Moderate	3.20 to 3.48
Strong	3.49 to 3.71
Substantial	3.72 to 4.05

5. E-5: CBVE instructional programs require more printed materials and instructional supplies than conventional programs. Printing, storing and distributing learning guides and individualized learning materials require a great deal of resources.

6. E-6: Schools have difficulty keeping CBVE curriculum materials current, especially in rapidly changing occupations.

7. L-7: There are few, if any, meaningful, state-provided incentives (financial and non-financial) to institutions, administrators and faculty to implement and maintain CBVE.

8. L-9: There is a lack of uniform criteria and methodology for implementation of CBVE among administrative personnel as well as an absence of a uniform definition of CBVE separating it from traditional academic education in methodology of instruction.

9. E-1: CBVE requires that training be supported with up-to-date and appropriate equipment. Schools find it difficult to obtain the equipment, keep it current, and maintain it in proper working condition.

10. C-1: Few schools and colleges have CBVE-trained curriculum and program development specialists to assist faculty members with program start-up and operational updates.

11. F-8: It is difficult to get faculty and institutions to accept the demands of open-entry/open-exit.

12. K-1: Accrediting and licensure agencies have requirements based on time, such as clock hours, that do not fit well with CBVE programs.

13. K-2: The V.A. and similar agencies that provide student support have requirements that do not fit CBVE programs.

14. G-3: Conventional college registration procedures do not permit students to enter and complete programs with the flexibility possible with CBVE.

15. E-2: Physical facilities designed for conventional programs are often ill-suited for the multiple activities of CBVE.

16. I-2: Vocational teacher education programs do not use competency-based methods in their own programs.

17. E-3: Schools have difficulty keeping facilities open and available when needed by individual students beyond normal hours of operation.

18. H-1: Community colleges tend to be oriented toward academic programs. It is difficult to get institutional support and resources for CBVE program improvement.

19. I-1: Teacher education programs do not adequately prepare vocational teachers for CBVE.

20. B-1: Faculty have a negative attitude toward CBVE and generally resist change.

21. C-3: Faculty have little access to clerical help needed for CBVE development and start-up.

22. B-4: Faculty are made responsible for program development but lack the skills needed to organize and produce the required support materials.

In addition to providing for responses for each barrier, both questionnaires also provided opportunities for respondents to comment in general as well as on specific barriers. Questionnaire No.1 also requested respondents to add any barriers they were aware of that were not included in the questionnaire. Comments and suggested barriers were included in 85 of Questionnaire No.1 and in 16 of Questionnaire No.2. By response category, the number of comments made were as follows:

	For Questionnaire No.1		For Questionnaire No.2	
Response Category	Responses With Comments	Number Comments	Responses With Comments	Number of Comments
DVE Staff	3	11	2	9
DVE Regions	3	7	1	1
District Directors	4	8	1	1
Area Center Admin.	20	25	4	4
Area Center Faculty	28	71	4	14
Community Coll. Admin.	9	18	3	3
Community Coll. Faculty	18	27	1	1
Total	85 (38%)	167	16 (10%)	33

The comments made by the respondents to both questionnaires proved to be very enlightening. They quite readily provide insights into the attitudes (many of which are negative) and biases of respondents in the various response categories. These comments provide further support to our findings that most of the barriers identified are personnel oriented and reflect the need for a real commitment to CBVE from administrators at all levels, state, district, and institutional, for implementation to occur throughout the state. A digest of all comments coded for respondent category and relevant barrier is included in Appendix J.

Site Visits

Following the identification of perceived barriers and during the survey verification of these barriers the project staff conducted a series of site visits in order to identify successful CBVE implementation strategies. Since it had been determined through our barriers identification activities that barriers exist in various forms and in different degrees in institutions around the state, the site visits would be used to identify strategies used to overcome specific barriers encountered in the selected institutions as well as general CBVE implementation strategies. These specific strategies and general implementation strategies would become part of the project database used in the development of the results and recommendations sections.

Area vocational/technical centers and community colleges from various geographic regions of the state were selected from those institutions identified as having either moderate or substantial CBVE implementation. Initial project plans called for three two-day site visits following a field test of the interview guides at an area vocational/technical center and a community college. The number of site visits was expanded to six after the initial three site visits yielded few successful strategies. The expanded number of site visits was determined to be necessary by the project staff when we found that some institutions classified as substantial CBVE implementers were not really as far along as was indicated and subsequently had few successful strategies and experiences to share.

In all, four area vocational/technical centers and two community colleges were visited. Two area vocational/technical centers and one community college were visited by a team of two or three project staff members for a period of two days for each site visit. The other three institutions were visited for one day each by a team of two project staff members.

The primary method used for collecting data during the site visits was to conduct one hour taped interviews with administrators, faculty, and staff. An average of 16 interviews was conducted on each of the two-day site visits while an average of 8 interviews was conducted on each of the one-day site visits. Additional data were gathered during the site visits from observations of facilities and reviews of institutional documents and policies.

Data in the form of specific strategies for overcoming barriers and general CBVE implementation strategies were extracted from the interview tapes and notes made at the site visits by each member of the project staff. These strategies were coded as to the specific barrier or cluster of barriers they related to and labeled as either: (1) an actual solution used at the institution and observed by the project staff member; or (2) a strategy recommended by the school administrator or faculty member being interviewed. The total list of actual and recommended solutions was then reviewed and grouped into related clusters. Duplications were eliminated and the solutions were summarized for the database used to develop the results section.

Other Sources of Information

CBVE has been successfully documented in various parts of the United States, Canada and in other locations in the world. Because of this widespread usage, we decided that we could extend the information base for identification and descriptions of CBVE implementation strategies. This was done both to discover strategies found successful elsewhere as well as to confirm the effectiveness of those strategies found successful in Florida.

A series of audio teleconferences were planned with key administrators at three sites in the U.S. and one in Canada. Initial telephone contacts were made to: (1) gain agreement to conduct the audio teleconference; (2) establish a date and a time for the teleconference; and (3) alert the administrator to the general questions and areas of concern to be addressed during the teleconference.

The three postsecondary institutions which participated in the one-half hour teleconferences were:

Hocking Technical College
Nelsonville, Ohio

State Fair Community College
Sedalia, Missouri

Holland College
Prince Edward Island
Nova Scotia, Canada

Administrators and curriculum specialists at these institutions were interviewed by two project staff members concerning:

- Personnel problems in the process of change,
- Strategies found successful in the change process, and
- Incentives useful in the change process.

Because the purpose of this project was to identify barriers and successful strategies for use throughout Florida and because actions or lack of action by the state department (DVE) had been identified as perceived barriers, we determined that an interview with state department personnel in a heavily CBVE state would be useful. We selected the Bureau of Vocational Education in Kentucky because Kentucky has been successfully directing and supporting the organization and operation of CBVE programs throughout that state since 1975.

As with the postsecondary institutions, two project staff members conducted an audio teleconference to ascertain:

- What key things can a state department do to further CBVE implementation statewide?

- What can the state department provide?
- What incentives or disincentives have proved successful?
- What organizational structure within the state department has proven successful?

Data gathered through the four teleconferences were added to the project database to be used in the results section for the general and specific solutions section.

RESULTS OF THE STUDY

The force-field analysis sessions and the literature search provided 62 barriers, and three additional barriers were added as a result of the recommendations of respondents to Questionnaire No. 1. The data gathered through the barriers confirmation surveys is organized and presented for each of the 65 barriers individually on the following pages. Each barrier is presented on a separate page with its adjective scores, numerical scores, and comments by the project staff concerning its final disposition.

The adjective scores describe the respondents' perceptions as to the barrier's existence and perceptions as to the barrier's influence on the implementation of CBVE, on a range from weak to substantial, as shown In Table 3.

The numerical scores for each barrier are presented for all respondents and by respondent categories. These scores describe an average strength of perceived existence on a range from +10 to -10. The higher the positive score, the greater strength of perceived existence is indicated. The higher the negative score, the stronger is the perception that the barrier does <u>not</u> exist. Numerical scores for the perceived strength of influence range from 0-5. The higher the score, the stronger is the perceived influence on the implementation of CBVE.

Comments by the project staff concerning the final disposition of each barrier are also presented. These comments range from simple statements as to the validation of the barrier by the data presented, or our dropping the barrier from the final list because the data gathered did not confirm the existence of the barrier. Additional comments are also included for some barriers presenting confirming, or in some cases contradictory, observations made during our site visits.

A summary of these results for all barriers including the strength of existence, strength of influence, and the final disposition for each is presented in Appendix I.

BARRIER A-1: Administrators express a negative attitude about CBVE, fail to conceptually support its development and/or fail to demonstrate commitment to CBVE goals.

Adjective Score:

For Perceived Existence: WEAK

For Perceived Influence: SUBSTANTIAL

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	-1.49	3.77
All Faculty	-2.18	3.53
Administrators (A/C & CC)	-0.78	4.06
Community Colleges	-1.59	3.90
Area VocEd Centers	-1.63	3.60

Final Consideration/Disposition of Barriers by Project Staff:

This barrier, A-2, A-3, and A-4 appear to have much in common. For this reason they will be considered as a cluster of barriers relating to the impact of administrators on the implementation of CBVE. We are convinced from our contacts with both administrators and faculty during our force field sessions and during our site visits that positive attitudes, knowledge, and support of institution administrators is essential if CBVE is to be successfully implemented and maintained. Indeed, as we observed several institutions during our site visits, it was the attitudes, knowledge and support of administrators that tended, more that any other factor, to account for effective institution performance in CBVE.

If this is true, and we strongly believe it to be true, how can the negative existence scores for Barriers A-1, A-2, A-3 and A-4 be explained?

These four barriers in addition to sharing negative perceived existence scores, and focus on administrators also share relatively high perceived influence scores and interestingly share a style of expression which is outright critical. A number of comments suggest the caveat "not at this school" for one or more of these barriers. It is true that there are several barriers in the B group as well as in other groups that also imply a criticism. However, within an institution the number of administrators addressed by these barriers are both few and specific. On the other hand the faculty tend to be more generic.

When the perceived existence score is compared to the perceived influence score, the interpretation appears to be "the administrator and what he/she does or does not do at this institution is not perceived as a barrier, but at another institution this barrier would be perceived to have strong to substantial influence affecting implementation of CBVE.

Perhaps, in retrospect, we are guilty of asking the wrong questions, or at least expressing them inappropriately. We do, however, validate these barriers.

BARRIER A-2: Vocational educational administrators and others know little about CBVE, its essential elements and requirements.

Adjective Score:

For Perceived Existence: WEAK

For Perceived Influence: STRONG

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	-1.26	3.46
All Faculty	-1.55	3.34
Administrators (A/C & CC)	-0.36	3.71
Community Colleges	-0.91	3.70
Area VocEd Centers	-1.17	3.36

Final Consideration/Disposition of Barrier by Project Staff:

See comments for Barrier A-1.

BARRIER A-3: Administrators lack the skills need to develop daily routines and management procedures for CBVE programs.

Adjective Score:

For Perceived Existence: WEAK

For Perceived Influence: MODERATE

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	-0.47	3.44
All Faculty	-0.84	3.30
Administrators (A/C & CC)	-0.18	3.62
Community Colleges	+0.06	3.47
Area VocEd Centers	-1.00	3.42

Final Consideration/Disposition of Barrier by Project Staff:

See comments for Barrier A-1.

BARRIER A-4: Administrators are not willing or don't know how to provide the faculty inservice, special resources, and motivation needed to overcome faculty resistance to change.

Adjective Score:

For Perceived Existence: WEAK

For Perceived Influence: SUBSTANTIAL

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	-0.65	3.77
All Faculty	-1.13	3.73
Administrators (A/C & CC)	+0.12	3.86
Community Colleges	+0.18	3.93
Area VocEd Centers	-1.08	3.69

Final Consideration/Disposition of Barrier by Project Staff:

See comments for Barrier A-1. Comments, responses to other Barriers, e.g., B-2, B-5, I-3, observation and discussion during site visits, and the strength of perceived influence scores suggest that the absence of an effective faculty inservice program is a substantial barrier, but its absence is not the fault of administrators at the institution.

BARRIER A-5: Administrators believe CBVE is more costly to start up and establish than conventional vocational education.

Adjective Score:

For Perceived Existence: MODERATE

For Perceived Influence: MODERATE

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	1.35	3.46
All Faculty	0.25	3.24
Administrators (A/C & CC)	2.59	3.67
Community Colleges	0.73	3.50
Area VocEd Centers	1.06	3.37

Final Consideration/Disposition of Barrier by Project Staff:

Administrators appear to perceive the existence of this barrier with considerably more strength that the other respondents. Obviously, funding demands across programs are typically within the knowledge scope of administrators. Therefore their response is considered adequate to validate this barrier. Perception of influence is consistent between response categories.

BARRIER B-1: Faculty have a negative attitude toward CBVE and generally resist change. There are several parts:

Adjective Score:

For Perceived Existence: STRONG

For Perceived Influence: SUBSTANTIAL

Numerical Score:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	2.93	3.81
All Faculty	3.19	3.70
Administrators (A/C & CC)	2.47	3.95
Community Colleges	2.56	4.09
Area VocEd Centers	3.13	3.66

Final Consideration/Disposition of Barrier by Project Staff:

The expression for this barrier was intended as a generic umbrella for the six individual barriers that are its parts. However, each as a generic heading, the expression contains two notions both of which could constitute barriers that really are not duplicated by any of the individual parts; negative attitudes toward CBVE, and resistance to change. Barrier B-1 is validated in this context.

BARRIER B-1-a: CBVE is not perceived by faculty as an improvement over the existing model.

Adjective Score:

For Perceived Existence: STRONG

For Perceived Influence: SUBSTANTIAL

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	2.68	3.80
All Faculty	3.11	3.73
Administrators (A/C & CC)	1.93	3.89
Community Colleges	3.11	3.92
Area VocEd Centers	2.29	3.72

Final Consideration/Disposition of Barrier by Project Staff:

This barrier together with Barriers M-1 and M-2 form a cluster centering around the need for a research/evaluation base to support CBVE. See comments for Barrier M-2.

BARRIER B-1-b: Faculty know little about CBVE, are frightened by it, don't like what they have heard about how it works in some schools, and fear it may result in the loss of their position.

Adjective Score:

For Perceived Existence: WEAK

For Perceived Influence: MODERATE

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	1.01	3.39
All Faculty	1.13	3.35
Administrators (A/C & CC)	0.84	3.49
Community Colleges	1.22	3.50
Area VocEd Centers	0.88	3.35

Final Consideration/Disposition of Barrier by Project Staff:

Information gathered from site visits and telephone conferences reflects that in retrospect a substantial number of faculty were threatened and did fear the loss of their position when CBVE was first introduced to them. Since respondents represented faculty and administrators who now had implemented CBVE, or were in the process of doing so, they no longer perceive the existence of this barrier to any significant extent. Based on the confirmation survey, we are unable to validate this barrier, but we do believe the potential job fear when CBVE is first introduced, especially for faculty, is high and should be considered in formulating any implementation strategy.

BARRIER B-1-c: Previous negative experiences of faculty stand in the way of CBVE implementation.

Adjective Score:

For Perceived Existence: WEAK

For Perceived Influence: WEAK

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	1.19	3.04
All Faculty	1.47	3.05
Administrators (A/C & CC)	0.66	3.03
Community Colleges	1.46	3.15
Area VocEd Centers	0.92	2.62

Final Consideration/Disposition of Barrier by Project Staff:

Perceived existence and influence for this barrier cannot be confirmed.

BARRIER B-1-d: Faculty believe that students with weak basic skills cannot succeed in CBVE.

Adjective Score:

For Perceived Existence: MODERATE

For Perceived Influence: MODERATE

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	2.39	3.24
All Faculty	3.03	3.40
Administrators (A/C & CC)	1.33	3.06
Community Colleges	2.01	3.15
Area VocEd Centers	2.54	3.33

Final Consideration/Disposition of Barrier by Project Staff:

This barrier is related to Barrier D-1 which received similar ratings for perceived existence and perceived influence. We cannot validate this barrier principally because observations and discussions at site visits where CBVE was substantially implemented indicated that this is not actually true. CBVE in fact provides more flexibility for these students.

BARRIERS B-1-e: Faculty believe that CBVE will take away academic freedom and instructional creativity.

Adjective Score:

For Perceived Existence: WEAK

For Perceived Influence: WEAK

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	1.08	3.07
All Faculty	1.72	3.12
Administrators (A/C & CC)	0.42	3.06
Community Colleges	2.07	3.34
Area VocEd Centers	0.58	2.93

Final Consideration/Disposition of Barrier by Project Staff:

Questions of academic freedom and creativity are typically raised in institutions of higher education. Survey data is consistent in that only at community colleges was existence of this barrier perceived with any strength and there only moderately. This barrier cannot be validated.

BARRIER B-1-f: Faculty believe they will be spread too thin and there will be new demands on their time after CBVE is implemented.

Adjective Score

For Perceived Existence: MODERATE

For Perceived Influence: STRONG

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	2.25	3.57
All Faculty	2.06	3.54
Administrators (A/C & CC)	2.35	3.56
Community Colleges	2.80	3.78
Area VocEd Centers	1.75	3.38

Final Consideration/Disposition of Barrier by Project Staff:

Related barriers are C-3, F-4, and F-5. This barrier is validated.

BARRIER B-2: Faculty have insufficient knowledge about CBVE, are misinformed and have inappropriate ideas about it, and are not aware of opportunities to learn the skills needed to implement CBVE.

Adjective Score:

For Perceived Existence: STRONG

For Perceived Influence: STRONG

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	2.75	3.61
All Faculty	2.69	3.47
Administrators (A/C & CC)	3.19	3.76
Community Colleges	3.48	3.63
Area VocEd Centers	2.50	3.57

Final Consideration/Disposition of Barrier by Project Staff:

Strength of perceived existence for this barrier is somewhat greater for administrators than for faculty. It is validated as a barrier.

Observations and discussions at site visits verified the lack of faculty knowledge.

BARRIER B-3: Faculty are not provided the release time they need to develop and reorganize programs into CBVE format.

Adjective Score:

For Perceived Existence: SUBSTANTIAL

For Perceived Influence: SUBSTANTIAL

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	4.84	4.18
All Faculty	5.08	4.20
Administrators (A/C & CC)	4.04	4.14
Community Colleges	4.33	4.45
Area VocEd Centers	4.88	3.99

Final Consideration/Disposition of Barrier by Project Staff:

Validated.

BARRIER B-4: Faculty are made responsible for program development but lack the skills needed to organize and produce the required support materials.

Adjective Score:

For Perceived Existence: STRONG

For Perceived Influence: SUBSTANTIAL

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	2.82	3.72
All Faculty	2.48	3.53
Administrators (A/C & CC)	3.01	3.98
Community Colleges	2.32	3.73
Area VocEd Centers	2.96	3.72

Final Consideration/Disposition of Barrier by Project Staff:

Validated.

BARRIER B-5: CBVE requires faculty be up-to-date in their fields, but schools provide very few opportunities for faculty to update their technical skills.

Adjective Score:

For Perceived Existence: STRONG

For Perceived Influence: SUBSTANTIAL

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	3.33	3.78
All Faculty	3.15	3.94
Administrators (A/C & CC)	3.10	3.57
Community Colleges	2.68	3.82
Area VocEd Centers	3.38	3.76

Final Consideration/Disposition of Barrier by Project Staff:

At first glance it would appear that this barrier, as well as several others in our list, primarily E-1, is not unique for CBVE. Indeed the requirement for faculty to be up-to-date in their technical fields is applicable to the entirety of vocational education. However, information provided by both faculty and administrators at force field conferences and site visits establishes that in conventional vocational education, the instructor may be able to avoid certain portions of the curricula where he/she is not up-to-date or competent or where certain equipment is not available. Without such avoidance becoming obvious. But with CBVE such avoidance would be not only obvious but would be challenged by students because they are in possession of the list of program competencies. Accordingly, CBVE infuses an imperative to this barrier. Also this barrier falls within the cluster of barriers dealing with inservice education which collective were perceived as having high existence and high influence. The barrier is validated.

BARRIER B-6: Faculty believe that programs in which secondary-level students are combined in classes with postsecondary-level students are more difficult for CBVE implementation.

Adjective Score:

For Perceived Existence: WEAK

For Perceived Influence: WEAK

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	1.15	3.04
All Faculty	0.84	3.03
Administrators (A/C & CC)	1.39	3.10
Community Colleges	1.59	3.09
Area VocEd Centers	0.71	3.04

Final Consideration/Disposition of Barrier by Project Staff:

Little evidence appear to substantiate either the perceived existence or perceived influence for this barrier. It cannot be validated.

BARRIER B-7: Effective use of part-time faculty is particularly difficult with CBVE because of the extent of orientation and explanation required.

Adjective Score:

For Perceived Existence: WEAK

For Perceived Influence: MODERATE

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	1.26	3.30
All Faculty	0.13	3.35
Administrators (A/C & CC)	2.65	3.37
Community Colleges	2.13	3.49
Area VocEd Centers	0.50	3.27

Final Consideration/Disposition of Barrier by Project Staff:

During our site visits we observed that not infrequently the part-time evening version of a regular, full-time day CBVE program was not itself presented in a CBVE mode. Although this idea is not precisely conveyed by the expression of B-7, the site visit observations together with the score of strong registered by administrators for perceived existence suggest this barrier should be validated to retain the impact of part-time faculty. However, neither the data nor the results of our site visits justify validation as written. The matter of part-time programs will be discussed elsewhere in this report.

BARRIER C-1: Few schools and colleges have CBVE-trained curriculum and program development specialists to assist faculty members with program start-up and operational updates.

Adjective Score:

For Perceived Existence: SUBSTANTIAL

For Perceived Influence: SUBSTANTIAL

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	4.03	3.72
All Faculty	3.19	3.65
Administrators (A/C & CC)	4.76	3.71
Community Colleges	3.96	3.78
Area VocEd Centers	3.75	3.60

Final Consideration/Disposition of Barrier by Project Staff:

Validated.

BARRIERS C-2: Persons responsible for curricula change are not provided with appropriate authority and influence to make decisions and carry out plans.

Adjective Score:

For Perceived Existence: MODERATE

For Perceived Influence: MODERATE

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	1.94	3.47
All Faculty	1.89	3.52
Administrators (A/C & CC)	1.99	3.32
Community Colleges	2.62	3.55
Area VocEd Centers	1.67	3.35

Final Consideration/Disposition of Barrier by Project Staff:

The perceived existence of this barrier has the greatest strength at community colleges. Validated.

BARRIER C-3: Faculty have little access to clerical help need for CBVE development and start up.

Adjective Score:

For Perceived Existence: STRONG

For Perceived Influence: STRONG

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	3.09	3.54
All Faculty	2.98	3.54
Administrators (A/C & CC)	2.59	3.41
Community Colleges	2.38	3.28
Area VocEd Centers	3.13	3.63

Final Consideration/Disposition of Barrier by Project Staff:

Validated.

BARRIER D-1: CBVE requires students who are mature and self-directed and who can assume responsibility for their own learning of occupational skills.

Adjective Score:

For Perceived Existence: MODERATE

For Perceived Influence: WEAK

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	2.64	3.15
All Faculty	3.40	3.24
Administrators (A/C & CC)	1.69	3.06
Community Colleges	2.74	3.27
Area VocEd Centers	2.67	3.09

Final Consideration/Disposition of Barrier by Project Staff:

Existence for barrier D-1, like the others in the student cluster, is perceived, especially by faculty, with moderate to strong strength. But as one respondent commented, how can it be overcome? Such a reaction probably accounts for the consistent weak strength scored for perceived influence. We do not validate the barrier. Even if it existed, its solution would probably have little effect on implementing CBVE.

BARRIER D-2: Students may require greater time to master the tasks required to complete a CBVE program.

Adjective Score:

For Perceived Existence: MODERATE

For Perceived Influence: WEAK

Numerical Score:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	1.53	2.82
All Faculty	2.02	3.05
Administrators (A/C & CC)	0.78	2.63
Community Colleges	2.62	3.12
Area VocEd Centers	0.75	2.70

Final Consideration/Disposition of Barrier by Project Staff:

See comment for Barrier D-1. Not validated.

BARRIER D-3: Students expect to complete vocational programs in a specified number of hours.

Adjective Score:

For Perceived Existence: STRONG

For Perceived Influence: WEAK

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	3.29	3.09
All Faculty	3.49	3.25
Administrators (A/C & CC)	2.89	2.98
Community Colleges	3.84	3.27
Area VocEd Centers	2.83	3.05

Final Consideration/Disposition of Barrier by Project Staff:

See Comment for Barrier D-1. Validated.

BARRIER E-1: CBVE requires that training be supported with up-to-date and appropriate equipment. Schools find it difficult to obtain the equipment, keep it current, and maintain it in proper working condition.

Adjective Score:

For Perceived Existence: SUBSTANTIAL

For Perceived Influence: SUBSTANTIAL

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	4.05	3.83
All Faculty	4.79	4.00
Administrators (A/C & CC)	3.07	3.63
Community Colleges	5.18	3.97
Area VocEd Centers	3.33	3.76

Final Consideration/Disposition of Barrier by Project Staff:

Interestingly, community colleges consider the strength of perceived existence greater than do area vocational centers. This is probably a reflection of the relative limited amount and condition of instructional equipment currently available at community colleges compared to that available at area vocational schools. See also comments for B-5. As with several other barriers, particularly B-5, they appear not to be unique to CBVE. However, we now believe that CBVE imposes an imperative to such barriers that could be avoided in conventional vocational instruction. This barrier is validated.

BARRIER E-2: Physical facilities designed for conventional programs are often ill-suited for the multiple activities of CBVE.

Adjective Score:

For Perceived Existence: SUBSTANTIAL

For Perceived Influence: STRONG

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	3.65	3.49
All Faculty	3.45	3.57
Administrators (A/C & CC)	3.98	3.46
Community Colleges	5.06	3.75
Area VocEd Centers	2.71	3.36

Final Consideration/Disposition of Barrier by Project Staff:

As with equipment, the responses suggest that the strength of perceived existence, and to a lesser degree the strength of perceived influence, are greater for community colleges than for area vocational centers. Based on site visit observations, facilities used by community colleges for vocational programs have been modified or minimally altered to meet the needs of vocational instruction, whereas the facilities of area vocational centers were designed and constructed for vocational programs, in some cases even for a CBVE mode of instruction. This barrier is validated.

BARRIER E-3: Schools have difficulty keeping facilities open and available when needed by individual students beyond normal hours of operation.

Adjective Score:

For Perceived Existence: SUBSTANTIAL

For Perceived Influence: MODERATE

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	3.65	3.27
All Faculty	3.45	3.17
Administrators (A/C & CC)	3.67	3.29
Community Colleges	4.88	3.58
Area VocEd Centers	2.63	2.97

Final Consideration/Disposition of Barrier by Project Staff:

As with E-1 and E-2, the perceived existence of this barrier appears to be stronger for community colleges than for area vocational centers. Barrier is validated.

BARRIER E-4: Individualized CBVE programs require use of more audio-visual equipment and materials which are difficult to obtain and maintain.

Adjective Score:

For Perceived Existence: STRONG

For Perceived Influence: STRONG

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	2.75	3.51
All Faculty	2.86	3.59
Administrators (A/C & CC)	2.47	3.56
Community Colleges	3.66	3.50
Area VocEd Centers	2.04	3.62

Final Consideration/Disposition of Barrier by Project Staff:

Barrier is validated.

BARRIER E-5: CBVE instructional programs require more printed materials and instructional supplies than conventional programs. Printing, storing, and distributing learning guides and individualized learning materials require a great deal of resources.

Adjective Score:

For Perceived Existence: SUBSTANTIAL

For Perceived Influence: SUBSTANTIAL

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	4.48	3.72
All Faculty	4.58	3.78
Administrators (A/C & CC)	4.04	3.63
Community Colleges	4.57	3.80
Area VocEd Centers	4.21	3.70

Final Consideration/Disposition of Barrier by Project Staff:

Barrier is validated.

BARRIER E-6: Schools have difficulty keeping CBVE curriculum materials current, especially in rapidly changing occupations.

Adjective Score:

For Perceived Existence: SUBSTANTIAL

For Perceived Influence: STRONG

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	4.50	3.68
All Faculty	4.66	3.84
Administrators (A/C & CC)	3.98	3.50
Community Colleges	4.57	3.65
Area VocEd Centers	4.25	3.73

Final Consideration/Disposition of Barrier by Project Staff:

Barrier is validated.

BARRIER F-1: It is difficult to develop satisfactory occupational task listings and listings obtained from DVE or other sources may not be adequate.

Adjective Score:

For Perceived Existence: WEAK

For Perceived Influence: WEAK

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	0.77	2.99
All Faculty	0.71	2.90
Administrators (A/C & CC)	1.14	3.14
Community Colleges	1.59	3.10
Area VocEd Centers	0.42	2.95

Final Consideration/Disposition of Barrier by Project Staff:

Inquiries made during site visits confirm that task listings from which competencies are formulated or directly the competencies themselves are being derived from sources other than the relevant occupation as it is being performed on the job. Most often instructors are simply using competency statements from textbooks or preparing them themselves from their own knowledge of the occupation. Typically, competency lists are "reviewed" by advisory committees. Although many instructors and administrators report having V-TECS catalogs, very few used the information in these catalogs to formulate competencies. Even fewer instructors used any form of job/task analysis such as DACUM to develop competencies. Indeed, we believe that this aspect of the CBVE mode of vocational instruction is least understood and satisfied by institutions. It is not difficult to understand why respondents viewed both the perceived existence and perceived influence of this barrier with little strength. The need to base competencies directly on how the occupation is actually performed on the job is not completely understood nor are the procedures for job/task analyses understood by faculty and administrators, hence it is not being done properly, hence it is no problem to do what they are doing.

We cannot validate the barrier on the basis of the survey; however, we will discuss the need for occupationally-based competencies in another part of this report.

BARRIER F-2: Competency-based materials lack depth and do not place enough emphasis on learning theory for highly technical programs.

Adjective Score:

For Perceived Existence: WEAK

For Perceived Influence: WEAK

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	-0.72	2.78
All Faculty	-0.08	2.71
Administrators (A/C & CC)	-1.75	2.97
Community Colleges	0.12	2.95
Area VocEd Centers	-1.38	2.73

Final Consideration/Disposition of Barrier by Project Staff:

This barrier is not validated.

BARRIER F-3: Curricula materials sent by the state are inadequate or too little, too late.

Adjective Score:

For Perceived Existence: STRONG

For Perceived Influence: MODERATE

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	2.77	3.22
All Faculty	2.90	3.06
Administrators (A/C & CC)	2.95	3.29
Community Colleges	2.93	3.28
Area VocEd Centers	2.92	3.19

Final Consideration/Disposition of Barrier by Project Staff:

Barrier is validated.

BARRIER F-4: CBVE designs or models for programs require too much testing and student progress documentation.

Adjective Score:

For Perceived Existence: WEAK

For Perceived Influence: WEAK

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	0.56	2.99
All Faculty	0.71	2.91
Administrators (A/C & CC)	0.24	3.03
Community Colleges	0.91	3.15
Area VocEd Centers	0.25	2.84

Final Consideration/Disposition of Barrier by Project Staff:

This barrier is not validated.

BARRIER F-5: CBVE program designs require faculty to spend inordinate amounts of time and effort in student record keeping and reporting.

Adjective Score:

For Perceived Existence: MODERATE

For Perceived Influence: MODERATE

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	2.45	3.43
All Faculty	3.03	3.57
Administrators (A/C & CC)	1.51	3.21
Community Colleges	3.11	3.82
Area VocEd Centers	1.92	2.92

Final Consideration/Disposition of Barrier by Project Staff:

Faculty, who would seem to be most affected by the impact of this barrier, view its perceived existence and perceived influence as strong. This barrier is validated.

BARRIER F-6: Individualization of instruction requires a reduction in student/teacher ratio because of faculty limits in order to meet safety requirements.

Adjective Score:

For Perceived Existence: WEAK

For Perceived Influence: MODERATE

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	1.28	3.21
All Faculty	1.55	3.20
Administrators (A/C & CC)	1.08	3.22
Community Colleges	1.71	3.50
Area VocEd Centers	0.81	3.00

Final Consideration/Disposition of Barrier by Project Staff:

Although we cannot validate the perceived existence of this barrier, it is interesting to examine the difference between community colleges and area vocational centers. Typically in area vocational centers class sizes under both the conventional as well as the CBVE mode of instruction remained at about 16 to 18. When CBVE was introduced the ratio did not change or in some cases it increased. But under conventional instruction at community colleges class sizes averaged around 30. Introduction of CBVE entailed a decline in the ratio. Survey responses tend to reflect this difference in perception.

BARRIER F-7: CBVE does not fit traditional grades or institutional grading procedures.

Adjective Score:

For Perceived Existence: MODERATE

For Perceived Influence: MODERATE

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	2.64	3.26
All Faculty	2.44	3.18
Administrators (A/C & CC)	2.83	3.37
Community Colleges	3.84	3.43
Area VocEd Centers	1.75	3.14

Final Consideration/Disposition of Barrier by Project Staff:

The situation manifest in community colleges is reflected in the response pattern for strength of perceived existence for this barrier. G-3 and H-1 are related barriers. Although vocational students may approach half of a community college's enrollment, the institution and its policies are academic. The vocational element is obliged to conform to such policies even though they do not fit the vocational mold too well. This barrier is validated.

DARRIER F-8: It is difficult to get faculty and institutions to accept the demands of open-entry/open-exit.

Adjective Score:

For Perceived Existence: SUBSTANTIAL

For Perceived Influence: STRONG

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	3.94	3.67
All Faculty	3.36	3.72
Administrators (A/C & CC)	4.40	3.57
Community Colleges	4.94	3.77
Area VocEd Centers	3.0	3.58

Final Consideration/Disposition of Barrier by Project Staff:

Barrier is validated.

BARRIER F-9: It is difficult to schedule and use limited clinical facilities in health programs under CBVE.

Adjective Score:

For Perceived Existence: MODERATE

For Perceived Influence: MODERATE

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	2.27	3.48
All Faculty	1.67	3.37
Administrators (A/C & CC)	3.17	3.63
Community Colleges	2.21	3.51
Area VocEd Centers	2.38	3.47

Final Consideration/Disposition of Barrier by Project Staff:

Barrier F-9 was suggested by respondents to Questionnaire No. 1. It was added and surveyed both as to perceived existence and perceived influence as part of Questionnaire No. 2. The barrier is validated.

BARRIER F-10: Program competencies are not standardized among state vocational schools. Thus students who transfer have difficulty in completing programs and may have to repeat segments.

Adjective Score:

For Perceived Existence: SUBSTANTIAL

For Perceived Influence: STRONG

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	4.97	3.61
All Faculty	4.52	3.75
Administrators (A/C & CC)	5.32	3.48
Community Colleges	4.92	3.60
Area VocEd Centers	4.83	3.65

Final Consideration/Disposition of Barrier by Project Staff:

Barrier F-10 was also suggested by respondents to Questionnaire No. 1. It was added and surveyed both as to perceived existence and perceived influence as part of Questionnaire No. 2. The barrier is validated. This "request" for state developed competency lists seems to support our findings during site visits.

BARRIER G-1: The way individual shops and labs are organized makes it difficult to schedule students and facilities in a CBVE environment.

Adjective Score:

For Perceived Existence: MODERATE

For Perceived Influence: WEAK

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	1.80	3.08
All Faculty	1.47	3.22
Administrators (A/C & CC)	1.99	2.92
Community Colleges	2.93	3.15
Area VocEd Centers	0.83	3.05

Final Consideration/Disposition of Barrier by Project Staff:

Although we can validate the perceived existence of this barrier, efforts to overcome it would appear to have minimum impact on enhancing the implementation of CBVE. During site visits we found no evidence of scheduling difficulties either when a particular lab or shop facility was used by students in more than one program, or between day and evening students, or when lab or shop facilities were used both for instruction and institution support such as for food service or printing. This barrier cannot be validated.

BARRIER G-2: Traditional methods of funding do not provide funds needed for program modification, CBVE start-up, additional equipment and materials, or staff time for program development.

Adjective Score:

For Perceived Existence: SUBSTANTIAL

For Perceived Influence: SUBSTANTIAL

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	5.11	4.05
All Faculty	4.71	4.18
Administrators (A/C & CC)	5.60	3.98
Community Colleges	5.37	4.15
Area VocEd Centers	4.96	4.06

Final Consideration/Disposition of Barrier by Project Staff:

Barrier G-2 is validated.

BARRIER G-3: Conventional college registration procedures do not permit students to enter and complete programs with the flexibility possible with CBVE.

Adjective Score:

For Perceived Existence: SUBSTANTIAL

For Perceived Influence: STRONG

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	3.81	3.49
All Faculty	3.53	3.41
Administrators (A/C & CC)	4.58	3.67
Community Colleges	4.27	3.60
Area VocEd Centers	3.75	3.47

Final Consideration/Disposition of Barrier by Project Staff:

Obviously this barrier pertains predominately to community colleges. Related to, and inherent with, the matters of registration procedures are the matters of college credit and college courses. As academic institutions, community colleges retain most attributes of classical academia, notable among which are the packaging of units of instruction into courses, the delivery of which is conveniently scheduled into one semester period of time. Programs are composed of a number of courses. Generally, instruction in community colleges is either credit or non-credit. Credit is a term used to identify enrollment, courses, fees, and goals for students. In order to "graduate" with a degree such as an Associate Degree, students must enroll and pursue "credit" courses to amass sufficient credits to meet graduation requirements.

Vocational education, especially CBVE, has no practical need for credit or courses. Instructional programs are designed to equip the student with skills and abilities necessary for employment in a specific occupation. How much time a student needs to learn these skills and abilities and to demonstrate competency in them is a function not of time but of individual learning capabilities and inclinations. The requirement to package a CBVE-designed vocational program into courses represents an artificial and dysfunctional element.

We observed one class in a community college in which there were credit students, non-credit students, and another category as well. Students in each category paid different amounts for the same package of

instruction.

There does not appear to be any uniformity among community colleges in terms of how vocational instruction is handled. At one institution we visited there was strong academic influence. Emphasis was placed on enrollment for credit and achievement of Associate Degrees. At another institution the occupational dean saw the matter just oppositely. His view was to make as many vocational programs as possible non-credit. Of course he still has the problem of courses.

Registration as the essential aspect in the expression for this barrier may indeed represent only that part of the iceberg above the water.

This barrier is of course validated for community colleges.

BARRIER G-4: Methods of assessing fees conflict with the time students spend in a program, the resources used, and tasks mastered prior to instruction.

Adjective Score:

For Perceived Existence: MODERATE

For Perceived Influence: MODERATE

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	2.55	3.26
All Faculty	2.44	2.95
Administrators (A/C & CC)	2.95	3.44
Community Colleges	4.09	3.67
Area VocEd Centers	1.57	3.10

Final Consideration/Disposition of Barrier by Project Staff:

Community colleges respondents perceived the existence of this barrier with substantial strength. For everyone else it was perceived with moderate strength.

What we observed during our site visits with only one exception was that students were being required to pay for more instruction than they needed. Payment schedules were assessed on a fixed-entry calendar of semesters, quinns, etc. For those institutions and programs that permitted open-entry, students entering a program after the beginning of a semester or quinn were in most cases charged only for the proportionate part of the fixed period remaining. Thereafter, they were charged for each fixed period they remained in the program through the final period. If the student completed the program prior to the end of the final semester or quinn no refunds for the unused portion of the period are made; indeed in most cases the student is encouraged to continue in school and do extra work until the end of the period.

Only in a few cases were students allowed to test-out for skills already learned and be given advanced placement.

Assessment of fees is based predominantly on the passage of time. It is not surprising that the barrier was not viewed with greater strength since students were not included in the sample.

We validate this barrier.

BARRIER G-5: Open-entry/open-exit programs do not match institutional methods for determining funding based on student FTE formulas.

Adjective Score:

For Perceived Existence: STRONG

For Perceived Influence: STRONG

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	2.95	3.52
All Faculty	3.36	3.56
Administrators (A/C & CC)	2.41	3.53
Community Colleges	4.21	3.80
Area VocEd Centers	2.13	3.37

Final Consideration/Disposition of Barrier by Project Staff:

It seems as though this is more a problem in community colleges. Site visits suggested that this is much less of a problem at area votech centers. We are not sure why this should be. Thus, barrier is validated.

BARRIER H-1: Community colleges tend to be oriented toward academic programs. It is difficult to get institution support and resources for CBVE program improvement.

Adjective Score:

For Perceived Existence: STRONG

For Perceived Influence: STRONG

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	3.11	3.69
All Faculty	2.77	3.67
Administrators (A/C & CC)	3.75	3.85
Community Colleges	2.80	3.95
Area VocEd Centers	3.42	3.60

Final Consideration/Disposition of Barrier by Project Staff:

The academic nature of community colleges is also an issue in Barriers F-7, G-3 and H-2 and was discussed in connection with those barriers. We validate the barrier.

BARRIER H-2: Institutions expect students in occupational and technical programs to complete background courses as requirements and resist building mastery of cognitive information into the occupational competencies of the program.

Objective Score:

For Perceived Existence: MODERATE

For Perceived Influence: WEAK

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	1.96	3.13
All Faculty	1.76	2.95
Administrators (A/C & CC)	2.35	3.16
Community Colleges	2.32	3.22
Area VocEd Centers	1.79	3.09

Final Consideration/Disposition of Barrier by Project Staff:

During our site visits we noted that except for remedial instruction, the practice of teaching basic skills such as math, communication, etc. in classes separate and apart from occupational program instruction was generally limited to community colleges. This is another attribute inimical to the academic philosophy of community colleges and it is contrary to effective CBVE operation. We validate the barrier.

BARRIER H-3: Policy and governing boards of institutions that do not understand CBVE are not willing to modify policies and procedures to better meet the needs of CBVE.

Adjective Score:

For Perceived Existence: MODERATE

For Perceived Influence: STRONG

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	2.27	3.55
All Faculty	1.81	3.37
Administrators (A/C & CC)	3.07	3.79
Community Colleges	1.71	3.63
Area VocEd Centers	2.75	3.49

Final Consideration/Disposition of Barrier by Project Staff:

Administrators who tend to have closer relationships with instituiton governing boards than do faculty view this barrier with strong perceived existence and substantial perceived influence. We validate the barrier.

BARRIER I-1: Teacher education programs do not adequately prepare vocational teachers for CBVE.

Adjective Score:

For Perceived Existence: STRONG

For Perceived Influence: SUBSTANTIAL

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	2.97	3.78
All Faculty	2.35	3.71
Administrators (A/C & CC)	3.55	3.77
Community Colleges	2.44	3.53
Area VocEd Centers	3.13	3.88

Final Consideration/Disposition of Barrier by Project Staff:

Respondents from area vocational centers appear to regard the perceived existence and the perceived influence of this and the two other barriers that make up the teacher education - in-service cluster, I-2 and I-3, with less strength than respondents at community colleges. It should be noted that community college faculty are not required to take courses at universities or to meet any qualifications for employment other than more specified by the institution itself. This barrier is validated.

BARRIER I-2: Vocational teacher education programs do not use competency-based methods in their own programs.

Adjective Score:

For Perceived Existence: STRONG

For Perceived Influence: SUBSTANTIAL

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	3.22	3.75
All Faculty	2.90	3.70
Administrators (A/C & CC)	3.43	3.77
Community Colleges	2.50	3.48
Area VocEd Centers	3.54	3.90

Final Consideration/Disposition of Barrier by Project Staff:

Barrier is validated. See comments for I-7.

BARRIER I-3: Many in-service sessions, workshops, and conferences are not competency-based.

Adjective Score:

For Perceived Existence: SUBSTANTIAL

For Perceived Influence: SUBSTANTIAL

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	4.80	3.74
All Faculty	4.50	3.68
Administrators (A/C & CC)	4.94	3.82
Community Colleges	3.84	3.48
Area VocEd Centers	5.25	3.92

Final Consideration/Disposition of Barrier by Project Staff:

Barrier is validated. See comments for I-1.

BARRIER J-1: Extensive participation in program planning causes conflict between advisory persons and faculty about program control.

Adjective Score:

For Perceived Existence: WEAK

For Perceived Influence: WEAK

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	-1.49	2.39
All Faculty	-1.09	2.19
Administrators (A/C & CC)	-1.93	2.25
Community Colleges	-1.28	2.59
Area VocEd Centers	-1.84	2.15

Final Consideration/Disposition of Barrier by Project Staff:

This barrier cannct be validated on the basis of the survey results.

BARRIER K-1: Accrediting and licensure agencies have requirements based on time, such as clock hours, that do not fit well with CBVE programs.

Adjective Scores:

For Perceived Existence: SUBSTANTIAL

For Perceived Influence: STRONG

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	3.94	3.63
All Faculty	3.11	3.53
Administrators (A/C & CC)	5.42	3.71
Community Colleges	3.84	3.48
Area VocEd Centers	4.21	3.69

Final Consideration/Disposition of Barrier by Project Staff:

Barriers K-1 and K-2 pertain to the same issue differentiated only slightly by the identity of the outside agency involved. Both barriers are validated.

BARRIER K-2: The VA and similar agencies that provide student support have requirements that do not fit CBVE programs.

Adjective Score:

For Perceived Existence: SUBSTANTIAL

For Perceived Influence: STRONG

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	3.74	3.63
All Faculty	2.65	3.44
Administrators (A/C & CC)	5.60	3.84
Community Colleges	3.90	3.62
Area VocEd Centers	3.83	3.62

Final Consideration/Disposition of Barrier by Project Staff:

Barrier is validated.

BARRIER L-1: The Division of Vocational Education (DUE) staff has not reached consensus about the concepts of CBVE.

Adjective Score:

For Perceived Existence: WEAK

For Perceived Influence: WEAK

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	0.79	3.14
All Faculty	0.42	2.88
Administrators (A/C & CC)	1.75	3.54
Community Colleges	0.49	3.06
Area VocEd Centers	1.29	3.26

Final Consideration/Disposition of Barrier by Project Staff:

A reading of the comments made to both Questionnaire No. 1 and No. 2 by those members of the DVE staff responding should confirm the truthfullness of the assertion in this barrier. In fact, a DVE staff member publicly declared himself to be a barrier to CBVE. But the survey results do not confirm this at the institutional level.-- Why?

Perhaps we phrased the question incorrectly. A better question is: "Does DVE facilitate CBVE through its actions?" The existence of DVE and performance to date is not perceived as a barrier to CBVE implementation because DVE is perceived as neutral. Its attitude and messages are seen as neither for or against CBVE; it neither helps nor hinders in CBVE implementation. As a result of our site visits, it appears that faculty seldom are aware of DVE existence or influence. Administrators are not particularly unhappy about the current role and impact of DVE because their prerogatives and independence are not jeopardized at all. Criticism is not intended for the laissez faire orientation unless, of course, state policy intends that vocational education throughout the state have some common abilities, achieve certain goals and objectives, and meet established standards.

Because the barrier as written was not perceived to exist with much strength or have much influence even if it did exist, we cannot validate it.

BARRIER L-2: DVE policies communicate mixed messages to local institutions about DVE commitment and direction relative to CBVE. DVE personnel commitment appears to be mostly verbal without implementation or follow-through.

Adjective Score:

For Perceived Existence: MODERATE

For Perceived Influence: MODERATE

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	1.60	3.38
All Faculty	1.51	3.13
Administrators (A/C & CC)	2.11	3.73
Community Colleges	1.10	3.35
Area VocEd Centers	2.21	3.42

Final Consideration/Disposition of Barrier by Project Staff:

This barrier is related to L-1. See comments for L-1. This barrier is validated.

BARRIER L-3: There is poor coordination among various bureaus and sections within DVE, weakening the CBVE effort.

Adjective Score:

For Perceived Existence: MODERATE

For Perceived Influence: MODERATE

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	1.73	3.27
All Faculty	1.18	3.25
Administrators (A/C & CC)	2.95	3.30
Community Colleges	1.46	3.23
Area VocEd Centers	2.42	3.30

Final Consideration/Disposition of Barrier by Project Staff:

Administrators, who may have a vantage point closer to DVE than other respondents, tended to view the strength of perceived existence for this barrier as strong.

We validate this barrier.

BARRIER L-4: There is a lack of coordination between DVE and local education agencies (LEA's).

Adjective Score:

For Perceived Existence: MODERATE

For Perceived Influence: WEAK

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	1.42	3.17
All Faculty	1.05	3.11
Administrators (A/C & CC)	2.65	3.34
Community Colleges	1.46	3.02
Area VocEd Centers	1.88	3.33

Final Consideration/Disposition of Barrier by Project Staff:

As with L-3, administrators considered the strength of perceived existence for this barrier to be strong where the other respondents considered it moderate. We validate the perceived existence of this barrier but discount its influence in impacting on the implementation of CBVE.

BARRIER L-5: The state provides little financial support for networks to facilitate development of CBVE.

Adjective Score:

For Perceived Existence: STRONG

For Perceived Influence: STRONG

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	2.70	3.68
All Faculty	2.39	3.76
Administrators (A/C & CC)	3.67	3.79
Community Colleges	3.05	3.71
Area VocEd Centers	2.83	3.34

Final Consideration/Disposition of Barrier by Project Staff:

Barrier is validated.

BARRIER L-6: There is a lack of a comprehensive State CBVE implementation plan and methodology.

Adjective Score:

For Perceived Existence: MODERATE

For Perceived Influence: STRONG

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	2.59	3.55
All Faculty	2.02	3.51
Administrators (A/C & CC)	3.86	3.66
Community Colleges	2.02	3.80
Area VocEd Centers	2.59	3.42

Final Consideration/Disposition of Barrier by Project Staff:

Institution administrators who responded tend to consider the strength of perceived existence for this barrier as substantial. The barrier is validated.

BARRIER L-7: There are few, if any, meaningful, state-provided incentives (financial and non-financial) to institutions, administrators and faculty to implement and maintain CBVE.

Adjective Score:

For Perceived Existence: SUBSTANTIAL

For Perceived Influence: SUBSTANTIAL

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	4.03	4.03
All Faculty	3.40	4.11
Administrators (A/C & CC)	5.66	3.95
Community Colleges	4.63	4.09
Area VocEd Centers	4.13	4.01

Final Consideration/Disposition of Barrier by Project Staff:

This barrier is validated.

BARRIER L-8: New state teacher evaluation programs and criteria foster traditional expository teaching and ignore or hinder continued development and implementation of CBVE.

Adjective Score:

For Perceived Existence: STRONG

For Perceived Influence: SUBSTANTIAL

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	2.66	3.73
All Faculty	1.85	3.71
Administrators (A/C & CC)	3.86	3.81
Community Colleges	1.77	3.56
Area VocEd Centers	3.29	3.88

Final Consideration/Disposition of Barrier by Project Staff:

This barrier illustrates one possible incentive (See L-7) the State could use to encourage implementation of CBVE. The perceived influence for this barrier was viewed with substantial strength and adminstrators consider the strength of its perceived influence also to be substantial. This barrier is validated.

BARRIER L-9: There is a lack of uniform criteria and methodology for implementation of CBVE among adminstrative personnel as well as an absence of a uniform definition of CBVE separating it from traditional academic education in methodology of instruction.

Adjective Score:

For Perceived Existence: SUBSTANTIAL

For Perceived Influence: STRONG

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	4.29	3.63
All Faculty	4.58	3.69
Administrators (A/C & CC)	4.37	3.59
Community Colleges	4.75	3.72
Area VocEd Centers	4.30	3.60

Final Consideration/Disposition of Barrier by Project Staff:

This barrier was suggested by respondents to Questionnaire No. 1. It was involved in the list of Barriers for Questionnaire No. 2 to be evaluated in terms of its strength for perceived existence as well as perceived influence. This barrier is validated.

BARRIER M-1: The data base of research and evaluation on CBVE is too small and there is too little evidence of the success of CBVE in Florida.

Adjective Score:

For Perceived Existence: MODERATE

For Perceived Influence: WEAK

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	1.71	3.16
All Faculty	1.51	3.27
Administrators (A/C & CC)	1.81	3.05
Community Colleges	0.98	3.27
Area VocEd Centers	2.08	3.16

Final Consideration/Disposition of Barrier by Project Staff:

See comments for Barrier M-2. The perceived existence of this barrier is validated.

BARRIER M-2: Local agencies require demonstration of positive results before they move in the direction of CBVE.

Adjective Score:

For Perceived Existence: MODERATE

For Perceived Influence: WEAK

Numerical Scores:

Respondent Category	Perceived Existence	Perceived Influence
Total (All Respondents)	1.71	3.18
All Faculty	1.22	3.21
Administrators (A/C & CC)	2.29	3.27
Community Colleges	1.77	3.07
Area VocEd Centers	1.58	3.24

Final Consideration/Disposition of Barrier by Project Staff:

Although school administrators perceived the existence of this barrier with somewhat greater strength than other respondents did, the difference is not particularly great. However, several comments were made concerning this barrier together with related barriers M-1 and B-1-a. Barrier B-1-a was scored strong for perceived existence and substantial for perceived influence. Taken as a cluster representing a single idea, there is a need to develop an adequate research/evaluation base to support CBVE in comparison to traditional terms of vocational education and to disseminate research results to education professionals. The absence of such a research/evaluation base at the present time is validated as a barrier.

PERCEIVED BARRIERS AND THEIR SOLUTIONS

The Status of CBVE in Postsecondary Institutions

The purpose of this part of the report is to present an overview, or snapshot, of the manner and form in which CBVE appears to be being implemented and operated at postsecondary institutions in Florida. The perspectives presented here were derived primarily from formal site visits made to five area vocational centers and three community/junior colleges, and from general knowledge of other institutions. Our views are based on information obtained from interviews as well as from observations and examination of documents provided to us by the schools and colleges themselves. Description of the methodology used for site visits is covered in an earlier section of this report.

The perspectives of CBVE included in this report should not be interpreted as expressing the extent to which CBVE is being implemented by all postsecondary institutions in Florida. More detailed information about the extent of implementation is contained in the recently completed MGT Report. Some feeling for the extent of implementation was also obtained as a result of the Assessment Survey done as a part of the present study.

It must be emphasized that the perspectives reported here are not applicable to all postsecondary institutions or to all instructional programs in Florida. Rather, they represent a composite view based on those institutions and programs included in site visits. However, it must be pointed out that only those institutions that were considered both by the institution itself and by DVE Regional administrators to have made substantial progress in implementing CBVE were included in the group of institutions visited. The criteria used to select instructional programs for visits included a specification that CBVE be implemented or be well into the process of implementation. Accordingly, the institutions and programs that form the basis for these perspectives were believed to be "CBVE implementers."

The perspectives presented below represent the dominant or preponderant situation in the judgment of the project staff. Where we considered them relevant, variations from the dominant condition are also noted. First, perspectives of a global nature will be reported. These will be followed by more detailed observations of the manner and form in which CBVE is being implemented.

Knowledge and Understanding of CBVE

What is most striking in a global perspective of CBVE implementation is the wide variation in understanding of CBVE and its meaning, principally among faculty, but also among administrators -- the people who are doing the implementing. Almost everyone knew the term, something of its meaning, and what is entailed in its use. But most

everyone also showed evidence of having misinformation about CBVE and its various components, as well as misinterpretations with respect to what constitutes a functional CBVE program.

The most common concept of CBVE held by both faculty and administrators seems to center on the self-paced nature of instruction, the term "individualized" consistently being misused when self-paced was what was meant. Quite naturally, the most often mentioned notion of what CBVE is about centers on the need for faculty to produce student learning guides, and the excessive workload involved in producing them. One of the essential features of CBVE, that competencies are derived and verified from tasks actually performed on the job by people in the target occupations, is neither well understood nor practiced by more than a few instructors.

Many faculty and administrators believe that in order to have a fully implemented CBVE program, they must be using open-entry/open-exit enrollment. Because they cannot or will not adopt open-entry/open-exit, they believe their programs never will be fully competency-based, regardless of how many other aspects of CBVE they successfully implement.

Some faculty express reservations about CBVE, such as, "It makes me just a classroom or learning manager, not a real teacher," because of misunderstanding or misinterpretation. Most faculty and most administrators, however, appear to accept CBVE, at least as a term for the type of vocational education that is or will be used in Florida. At the same time, acceptance is often conditional with a desire to see evidence that the results of a CBVE mode of instruction are better than those of conventional programs. Consistent with their understanding most faculty accept parts of CBVE as being effective while rejecting or ignoring others. Which parts are accepted tends to vary among individual instructors depending, perhaps, on what is convenient to install and manage. Many faculty do not see the necessity for a comprehensive acceptance of CBVE as an integrated system for vocational education.

Institutional Variation

We found that there are rather substantial variations within most institutions both as to the extent and manner of CBVE implementation. There are also substantial variations among Florida postsecondary institutions as to how CBVE is implemented. Within limits created by the institution, the extent and manner to which instructional programs operate under CBVE tend to be functions of the instructor's conception and acceptance of CBVE, and his/her personal imagination and professional drive. The institution provides the environment, resources and reinforcement for the instructors. Institutions seem to acquire individual characteristics that reflect the attitudes, goals, and motivation of senior administrators. Institutional characteristics

serve to set limits for how far teachers can go individually in designing, installing, and maintaining CBVE programs.

We observed several different "models" for institutions in the course of our site visits. One institutional model, which can be referred to as "laissez-faire," creates an essentially neutral environment within which instructors have wide latitude for independence; instructors are almost individual entrepreneurs. This institutional characteristic is neutral with respect to CBVE or any other mode of vocational education. The desire of administrators to strongly influence or closely control instructional programs is absent as long as there are no serious problems, crises, or demands. There appears to be a continuing dialog among senior administrators and faculty as to whether or not the institution is in favor of CBVE. Resources are allocated by principles of fair share rather than by considerations of program needs and priorities. In institutions typified by the laissez-faire model, there are substantial variations in faculty opinion as to what CBVE means, as well as whether and how it can be implemented.

What we term the "going concern" institutional model is typified by knowledgeable and energetic senior administrators who have formulated institutional goals among which is the full and effective implementation of CBVE. They exert positive and consistent leadership in guiding the institution toward achievement of its goals. There are still variations among instructional programs with respect to implementation of CBVE, but variations in faculty and staff understanding of what CBVE is and how it is to be operated are much compressed. Resisting or lagging vocational training programs are gradually being brought into the fold. Only a very few institutions visited appeared to fit this model, but they are impressive in their accomplishment.

At the other end of the continuum is the "resistive" model. With these institutions, the essential character seems to reject CBVE. Opposition to CBVE is not necessarily overtly expressed, but the goals, policies, procedures, and decision-making processes appear to actively hinder and thwart CBVE. To differing degrees this model is applicable primarily to community and junior colleges where academic interests tend to influence the institutional character significantly more than do vocational concerns. Accordingly, goals, evaluation criteria, curricula, and administrative procedures are designed to satisfy academic interests and programs, while vocational programs are forced into the academic mold whether they fit or not. Academic interests influence design of broadly defined programs leading to associate degrees or certificates, compartmentalized into and priced by equivalent, time-based units called credits and courses. At the end of each academic period, typically a semester, the student is evaluated in terms of how much of what was in the course package the student actually learned.

Countervailing trends were observed, however. One trend seems to incorporate the academic influence into vocational programs to the

maximum extent possible. The other trend, not pursued by the majority of institutions, seems to be to move vocational programs out of the academic influence by converting them to non-credit, non-degree status and eliminating the traditional course structure. The latter effort appears to hold promise of increased implementation of CBVE.

Other attributes of academic influence that also impact on CBVE implementation include institutional admission requirements for a high school diploma or equivalent, institutional admission criteria for eligibility for student financial aid, competition among vocational instructors for academic rank, academic bases for student grading policies, and academically oriented calendar and registration procedures that do not accommodate open-entry/open-exit enrollment.

Specific Aspects of CBVE Implementation

The foregoing represents the global perspectives of the manner and form in which CBVE is being implemented at those institutions included in the site visits. Following are the views of project staff covering particular aspects of CBVE implementation in postsecondary vocational education.

How and from what sources are competencies developed and maintained? -- Clearly, for the majority of instructional programs, competencies are not being derived directly from tasks performed by people on the job in relevant occupations. Rather, competencies are often being extracted from textbooks or used directly as printed in student workbooks. Instructors may also use their own experience to verify or modify a competency, but this is rare. When they are consulted at all, V-TECS catalogs are used for reference purposes, not accepted in toto as validated competency lists. DACUM analyses are known to be used fully at just one institution. CAREER MAPs are sometimes accepted at face value, perhaps because they borrow the DACUM chart format (though not the analysis process). One district organizes special committees of instructors to identify competencies, and committees of occupational practitioners to verify them. In some CBVE programs, occupational competencies are identified through joint effort of the instructor and a curriculum developer. This practice is viewed within the institution as wholly appropriate and satisfactory. Periodically, competencies are presented to and reviewed by program advisory committees. Only occasionally are specific competencies added or deleted because of advisory committee review.

What form of assessment is used? -- For many instructional programs, there seems to be an even division between assessments that measure knowledge and those that measure performance. Assessment is done for some competencies in a program, but not for others, without visible rationale for the difference in treatment. Assessment instruments are without uniformity between and within institutions. They also appear to vary even within the same program.

Assessment instruments are either developed by individual instructors or extracted from textbooks or student workbooks. In one case, assessment instruments are standardized for the district. Results from student assessments are used for reporting student progress and as feedback to students to facilitate learning. Assessments are typically made by instructors, but some are made by advanced students.

What student grading procedures are used for CBVE programs? -- Many instructors use a form of S/U grading, but some instructors use a letter or number grade scale. Grades above acceptable levels of performance are determined on one or more of several criteria, such as the time taken by the student to reach acceptable performance, quality of performance, attitude, attendance, motivation, and amount of supervision required to perform. It appears that in some programs it is possible for students to be graded D or E. We also noted the practice of averaging competency ratings to determine grades, even when students performed poorly on certain competencies.

What test-out opportunities are provided entering students who have already learned some of the competencies? -- It is our observation that seldom do students actually test-out and omit portions of a program. Either test-out procedures are not provided, or theoretically it is permitted but seldom happens in practice. Where testing-out is done, it usually takes the form of an interview, with the instructor verifying previous learning through oral questions.

What is the nature of curricular materials used in CBVE programs? -- A variety of curricular materials are used in CBVE programs. This includes: (1) textbooks purchased by students, (2) learning guides and modules developed by the instructor (usually in a format standardized for the institution), (3) reference materials maintained at the instructional site (classroom, lab, or resource center), and (4) supporting audio-visual materials which are used with A/V equipment also located at the instructional site. Except in the area of business occupations, curricular materials developed elsewhere are typically not incorporated directly into the basic set of materials used by students. We saw no VIMAS-distributed materials in student's hands. Rather, such outside materials are used as references for the instructor.

To what extent are students grouped for learning activities? -- Some form of group-pacing is used by most CBVE programs. It appears to be the norm, though there are indeed noteworthy exceptions. Even when programs are open-entry/open-exit, teachers tend to form students into small groups for instruction. Teachers report that students also tend to form themselves into like groups and proceed to work through competencies together. Although referred to as "individualized instruction" by faculty and administrators, there are really far more programs that are "self-paced" than are individualized according to our project definition.

What constraints of entry to and exit from CBVE programs are there? -- Community and junior colleges typically do not have many programs

that are open-entry/open-exit. Some form of open-entry/open-exit enrollment is fairly common at area vocational centers. Forms of open-entry range from enrollment at any time, every Monday, or once each month. Some form of open-entry is far more common than any form of open-exit. Typically for institutions that continue to maintain a school calendar divided into semesters or quins, students are encouraged, either directly by instructors or indirectly by policies that prevent refund of tuition and fees for unused instructional time, to remain in the program until the end of the calendar period in which they complete the program. Students who achieve the specified program competencies early are provided additional "enrichment" instruction. For area vocational centers, the matter of scheduled vs. open-entry and/or exit seems to be a function of individual programs and instructors instead of institutional policy. Of course, this applies only when institutional registration and payment procedures can accommodate open-entry and/or open-exit. But, there is considerable discrepancy between what administrators say about how their institution handles entry and exit and what instructors say actually happens.

What variations in instructional delivery methods are used in CBVE programs? -- Lecture as a method of instruction figures strongly in health occupations programs and in technical fields where there is considerable related theory. Many other instructors also like to get their total groups together at regular intervals for lectures, class discussions, and group interchange so as not to lose the group feeling. Other methods such as skills demonstrations, lab exercises, one-on-one interactions between student and instructor, small group discussion and demonstration, clinical practice, supervised lab/shop practice, and student interaction with A/V material are used extensively and in good variety for most programs. There is very little field-based training, except, of course, in the clinical phase of health occupations programs. Computer-assisted instruction (CAI) was not to be seen.

What verification of basic cognitive skill requirements is made before a student starts a CBVE program? -- Students who enroll in a program may or may not commence that program with testing in basic skills. Students who experience problems that indicate a basic skill deficiency are referred to an institutional support center charged with this responsibility. In one notable situation, adult students who have been away from formal learning activities, and whose entrance tests disclose deficiencies, are provided special review instruction in basic cognitive skills for about one week before beginning their programs. Such instruction is typically provided at a central location within the institution such as the IMTS lab or LRC by a specialist using self-paced, and less frequently, individualized methods and materials.

To what extent are part-time instructional programs the same as their full-time CBVE counterparts? -- The pattern tends to vary with administration, but typically part-time programs are not likely to implement CBVE. Part-time and evening programs are less typically well supported and less supervised than their full-time day counterparts. In

addition, part-time evening programs are often designed for different purposes than full-time day programs.

To what extent is knowledge and acceptance of CBVE and capability to instruct under the CBVE system specified as a recruiting and selection requirement for employment of an instructor for a CBVE program? -- Because knowledge of and experience in CBVE is rare among applicants, this is not required for employment. However, postsecondary institutions that have fully implemented CBVE tend to require that the new instructor be willing to learn about and teach in the CBVE mode, as a condition of employment.

How adequate is instructional equipment used in CBVE programs? -- Generally, instructional equipment appears to be up-to-date, available in sufficient quantity for the normal level of student enrollment, and appropriately maintained. Adequacy of instructional equipment for area vocational centers appears to be even better than for community and junior colleges. Instructors unanimously report that they get excellent support from media center personnel for making videotapes, slide/tape presentations and other media materials. Instructor time and effort appear to be the only limiting factors in producing such instructional material.

How appropriate are instructional facilities for CBVE programs? -- Area vocational center facilities are generally excellent. They are new or nearly new, well maintained, and designed for the purpose for which they are currently used. Instructional facilities used by community colleges for vocational education are generally appropriate and adequate. Although these facilities may have been designed for another purpose, adaptive modifications are satisfactory in most cases. It appears that special facilities for CBVE are not crucial. Minor modifications tend to suffice.

Introduction to Perceived Barriers and Their Solutions

We believe that the major categories of barriers and solutions identified by this study generally apply to all postsecondary institutions. The major barriers tend to be people-related issues and the major solutions tend to be administrative actions. But not all barriers occur at the same time and specific solutions are effective only if they are implemented in an appropriate and timely manner.

The administrators of community colleges and area vocational schools have a major impact on the implementation of CBVE in the school. But the administrative structures of community colleges and area vocational schools are very different. There are also differences in the faculty orientation and other environmental factors at the two types of institutions. Thus specific barriers and specific solutions may not apply equally to both types institutions. In a similar manner, each institution has somewhat different administrative policies and exhibits some unique physical, personnel, and program characteristics. At a given time, not all schools nor programs within a school experience the same combination of specific barriers to CBVE and not all potential solutions are equally applicable in addressing a perceived barrier.

We believe that the barriers can be overcome if school administrators strongly support CBVE. Administrators must be willing to interpret and apply rules and regulations in a way that permits them to make appropriate decisions and take the actions needed to facilitate the development and implementation of CBVE.

The timing and sequencing of actions intended to facilitate the development and implementation of CBVE are important. The administrators and faculty of an institution usually progress through well understood individual development levels with respect to the implementation of CBVE. Some administrative actions and other solutions are more appropriate at one level of development than at others.

A brief description of individual development levels that occur when CBVE programs are designed and implemented is given below. The levels are described by several authors who use quite different vocabulary and models. Each model represents the findings of considerable research on the implementation of innovation in schools. For the purposes of this study we have relied on the description of individual development levels that are presented by the Concerns-Based Adoption Model (CBAM) described by Hall, et al (1973). An understanding of the levels of individual development and an ability to take appropriate actions that facilitate movement to higher levels effect the successful implementation of CBVE. Understanding of the problems involved, and timely actions will have a great deal to do with the future of CBVE in Florida.

Stages of Personal Development With Respect to CBVE

Perceptions of barriers to CBVE change over time. Hall and associates have described stages or levels of concerns that are commonly found when an innovation is introduced into a school. The levels are described in publications about the Concerns-Based Adoption Model (CBAM) (Hall et al., 1973; Hall and Loucks, 1978). During our site visits, we became convinced of the appropriateness of the CBAM model in reviewing reported CBVE barriers. As vocational educators become more involved with CBVE their concerns about it change and perceptions about barriers tend to modify. As we discussed barriers and solutions with administrators and instructors, it became evident that reactions to CBVE and expressions of barriers related to implementing CBVE were largely a function of the degree of experience with CBVE programs. Experience tends to relate to levels of individual development.

It is obvious that vocational administrators and instructors have different roles and take responsibility for different aspects of a school's operation. We found that the two groups tended to express different concerns with respect to CBVE. That is, they tended to identify different barriers. We found this to be true during the force-field conferences and during the site visits. Although there is similarity in the generic nature of concerns or barriers listed by administrators and instructors who are functioning at the same personal development level, the specific topics of the barriers reported by the two groups tended to be somewhat different. As readers review the list of barriers and potential solutions they should differentiate between the orientations of administrators and instructors. As instructional leaders, vocational administrators should be at a higher level of development than instructors. If administrators are not at a higher level, they will have difficulty providing the leadership that is essential to successful conversion to and implementation of CBVE.

As administrators work toward developing CBVE, their ability to help faculty members move toward development and implementation of CBVE programs becomes the primary target of interest. Their focus is on affecting how faculty members operate programs. They also attend to regulations, procedures for facilitating the flow of program development (e.g., supplying support personnel), and on processing students into programs. Concerns about how students function is an important but secondary issue. Student impact is one step removed from the prime target of institutional instructional leadership.

Faculty members focus on their ability to influence how students learn or master occupational skills. Their primary interest is on their ability to affect how students function and learn within the program. They also attend to the details of ensuring adequate learning material and in recording student activities.

The Concerns-Based Adoption Model (CBAM) contains six levels of personal development in relation to an educational innovation, as shown in the accompanying graphic representation. The first level

CONCERNS-BASED
ADOPTION MODEL

	LEVELS	DESCRIPTION
VI	COORDINATION	Seeking to work with others to improve CBVE
V	IMPACT	Concerned with the impact of CBVE
IV	MECHANICAL	Operating smoothly functioning CBVE programs
III	PERSONAL	Becoming involved with CBVE
II	INFORMATION	Showing general interest about CBVE
I	AWARENESS	Little knowledge or concern about CBVE

(Awareness), is a pre-involvement stage. Vocational educators at this level have little concern with CBVE, have little accurate information about it, and are not involved in CBVE. The next level is called Information. Persons at this level have general information about CBVE, and are interested in obtaining accurate information about the general nature of CBVE, its characteristics, effects, and requirements. But persons at this level are not operating CBVE programs and have no immediate plans to become involved.

For simplicity we can group the first and second levels together. The perceived barriers reported by vocational educators at these levels often constitute inaccurate or incomplete information about CBVE. Many of the perceived barriers reported and rated by participants in the force-field conferences, site visits, and mailed surveys in this study represent reactions of persons functioning at one of the two levels. Solutions to such perceived barriers often consist of providing administrators and instructors with information-obtaining activities or experiences that provide accurate and more complete knowledge about CBVE. Such solutions create increased awareness and interest in or consideration of potential involvement with CBVE. The solutions are intended to help individuals make a personal commitment to become involved and to explore or try out CBVE. The solutions will not be successful in prompting every vocational educator to progress to the next level of personal development with respect to CBVE. Some individuals will elect to stay at one of the first two levels.

When the commitment to become involved is made, concerns and perceived barriers tend to change. Persons at the next level will need different solution strategies to help them deal with their new foci. The third level outlined in CBAM is called Personal. A decision to become involved and a time schedule for initial implementation of CBVE indicates entry into the third level. Movement to this level represents a tremendous developmental leap with respect to CBVE. The expressed concerns and perceived barriers listed by persons at the third level are relatively easy to identify.

Persons entering the Personal level are uneasy about their ability to meet the requirements of CBVE. They express concern about time demands and the match between their skills and those required by CBVE. They express concern about their personal goals and how their goals will be influenced by CBVE. For example, it is not uncommon for persons who are beginning to implement CBVE to worry about being replaced with less experienced and less knowledgeable teachers after they have coverted to CBVE and have created the program and its support materials. They become concerned about the institution's reward structure and their personal future within the organization. Issues are raised about potential or real conflicts with existing structures and personal commitments. They raise issues about their security and financial status.

Administrators and instructors have quite different views of CBVE when they are at the Personal level of development. Administrators are

attempting to deal with their roles as instructional leaders and examine their adequacy to help faculty members progress with respect to CBVE. They consider the school's ability to meet the physical and financial requirements of CBVE.

At level three, instructors consider their past. What parts of their past success and comfort with program operation will they have to give up? Other concerns are represented by questions such as: How can I deal with new time and knowledge requirements that may threaten to disrupt my current way of living? Will I be able to satisfy the program development criteria and master the new teaching tasks? Where will I get the material needed, and how can I organize this new way of working into reasonable coordinated whole?

The strategies that help administrators and instructors cope with temporary difficulties and worries and to progress through the Personal level of development are different than those useful to vocational educators at the lower levels. These strategies or solutions can be very demanding and often include the assistance of other people. Specific "How to do it" advice and demonstration as well as personal reassurances are often needed. At times, a not too gentle demand for action may be required. Although the same kind of assistance is needed by both administrators and instructors, the specifics of the assistance vary.

Some individuals progress through the Personal level very rapidly, others slowly, and some never make it to the end. These latter educators become CBVE dropouts. The majority of vocational educators who try CBVE move through level three. They begin to show less concern about personal issues and identify fewer barriers. They undergo a noticeable change as they enter level four, Mechanical.

The Mechanical level describes those educators that smoothly run a CBVE program. They have few problems, see few barriers and are comfortable with the way they operate their programs. People who reach the Mechanical level spend their time maintaining their programs and ensuring that everything runs smoothly. Pride in program, satisfaction, and contentment with CBVE typifies these individuals. They are very busy and work hard at maintaining what they have developed. However, they take no action to formally investigate the impact of their program. They have no formal plans to modify how they operate and are not interested in formally planning to improve their programs. Other than assistance with routine maintenance within the strategies they have put into practice, level four administrators and instructors need little assistance in overcoming problems or barriers. They are fully functional CBVE implementors.

Two other levels are suggested by CBAM. These higher levels can be called Impact and Coordination. Based on the information obtained during the force-field conferences and site visits, we suspect that only a few Florida vocational educators are currently functioning at the

Impact level and very few, if any, are functioning at the Coordination level.

The Impact level is indicated by primary interest or concern with the impact of current operations on the target audience. The Impact level usually can not be entered until after spending considerable time in the Mechanical level. Administrators indicate that they have advanced to this level when they become interested in conducting formal studies of the impact of policies and procedures on the operation of programs. They also initiate formal studies of the impact of strategies used to help instructors move up the development cycle. Instructors at the Impact level become involved with formal studies on the impact of their programs on students.

The Coordination state is represented by educators that become involved in formal groups of interested persons looking for strategies to improve or modify the way they operate CBVE. This work is based on the results of formal impact studies. Such working groups meet regularly and their goal is to produce an improved form of CBVE as an alternative or refinement to the way they currently operate their programs or carry out administrative duties.

Usefulness of the Personal Development Perspective

We believe that the ideas outlined in the Concerns-Based Adoption Model are useful in interpreting and providing meaning to the data reported in this study. Programs within institutions are experiencing widely different barriers. Many of the barriers represent perceived problems and are the expected natural human behaviors for administrators and instructors who are implementing an educational innovation. The behaviors are especially visible when the innovation is as unique as CBVE and represents many notable departures from traditional programs. Although the barriers are often perceptions or states of development that can be expected, they are nonetheless very real and must be attended to with appropriate support. If not, CBVE will fail to develop and will not persist.

We believe that the concepts of levels of personal development can help the State of Florida develop a plan of action that is intended to provide appropriate and timely support to institutions and their administrators. Institutions can also use these ideas in developing their own plans of action so programs and instructors get the support they need in order to bring to effect the full potential of competency-based vocational education.

Project Recommendations for Overcoming Barriers to CBVE

The following two sections of this report focus on the positive aspects of implementing competency-based vocational education in postsecondary schools and colleges; that is, recommendations for change to eliminate barriers to CBVE, strategies to overcome existing barriers, and mechanisms to cope with barriers that cannot be removed. Our recommendations and suggestions are presented in two ways; (1) a narrative approach, describing in broad terms what can be done to foster CBVE at three administrative levels, and (2) specific actions and strategies that can be applied to each of the 50 barriers to CBVE identified in this study. While there is a possibility of some repetition in this organizational pattern, it ensures that information is readily available to the reader, and that specific recommendations do not get lost.

The first of these two sections presents recommendations for action at the state level, at the institution level, and at the program level. In it we attempt to meet the requirements given for the study, placing special emphasis on faculty requirements, staff development, funding for curriculum, procedural changes, and role changes. The report deals with these topics, although it is not organized around them. The recommendations go beyond the immediate data gathered in the course of this study to include information and experience acquired by the project staff from a wide range of sources over a period of time.

Recommendations for State Level Action

The progress made in implementing competency-based vocational education in Florida during the past ten years has been real but slow. In spite of significant expenditure of funds and years of state effort, CBVE is still widely considered an innovation, and in its initial stages of establishment. Open comments generated in response to mailed questionnaires, and reactions of staff and administrators during on-site interviews suggest that debate about the value of CBVE, and criticism of the Division's commitment to CBVE continue within the DVE itself. Curriculum documents emanating from the DVE indicate that there is either an incomplete understanding of CBVE among vocational education personnel there, or that conformity to the goal of CBVE is less than uniform. The state staff raised questions about the DVE's role in CBVE implementation as long ago as 1976; most of those questions remain unanswered eight years later. A "master plan," called for in 1976 and since, still does not exist.

The present study found that the barriers to CBVE that are associated with the Division of Vocational Education are mainly those of omission rather than commission. They are real and significant barriers nonetheless. These reflect decisions not made, actions not taken, plans delayed, leadership not taken, products never produced. In the opinion of the project staff, definite change needs to take place or the barriers will continue to exist, and the movement toward CBVE will lag.

The recommendations made in this section of the report are not essentially new or original. They have as their basis the opinions and ideas of experienced postsecondary school administrators and staff, the experience and expertise of the project staff, and information about what has proven effective and successful in other settings. These recommendations, if taken seriously and implemented diligently, can have great positive effect on the advance of CBVE in Florida. If the DVE does not gear up to take clear leadership, then it is entirely possible that CBVE implementation will drift, and its principles become diluted by expediency.

Probably one of the first things the Division should do is to revitalize its commitment to CBVE. It can do this by making sure all members of the state staff understand the commitment and how it affects their responsibilities. The Division should also make public its goals and future plans for implementing CBVE statewide. It is now time for the Division to discard the irresolute view that CBVE is an experiment that schools are encouraged to try. CBVE should be promoted as the norm for Florida vocational education in the 1980's and beyond; the expected and presumed mode of instruction. The principles of CBVE then can be incorporated into all aspects of DVE activities and responsibilities, whether funding, curriculum and materials development, administration, research, or staff development. Some of this is being done now of course; the change should be complete.

The barriers to CBVE identified in the study disclose a most serious deficiency in the state's efforts to implement this approach. There needs to be an organized and systematic decisionmaking and policymaking apparatus for CBVE. Decisions related to and affecting the course of CBVE appear now to be made by a number of different people attached to the various bureaus, each with personal interests and individual interpretations of CBVE. Other important decisions may not be made at all because no one is responsible. In addition there is no uniform or accepted model of CBVE on which to base important decisions. A CBVE model for Florida would describe the assumptions on which the approach is based, its basic principles, and most importantly the manner in which these principles would be applied in an ideal functioning system. Without a model and policymaking apparatus, the inevitably erratic state actions on CBVE hinder its growth.

DVE personnel are directly related in a number of identified barriers in the implementation of CBVE. These include mixed messages about CBVE communicated to local institutions, the lack of personal commitment and follow through, and incomplete coordination within the Division and between the DVE and local education agencies. Among state personnel there is continuing confusion about CBVE, individualized instruction, and self-paced instruction. Judging by comments we have received, staff commitment ranges from enthusiastic, through non-involvement, to sharply resistant. A strong and systematic program of staff training for CBVE is indicated, not only providing cognitive knowledge, but also including organized observation and personal experience as a learner or teacher in a CBVE setting. This may not be an easy task for a busy staff that could well object to the idea of being trained at this stage in their careers.

Serious consideration should be given to setting up a central office for CBVE. Subject to review by top administration, this office could formulate policy, make basic decisions regarding DVE efforts, coordinate the activities of the various bureaus as they affect CBVE, develop plans for future work, and serve as a quality control agency for CBVE products. The ultimate responsibility of such an office would be to give the state's commitment to CBVE the direction and control it needs. It is in the nature of bureaucracies that the office for CBVE would be seen as a threat to the independence and prerogatives of other existing units, but this can be overcome.

Another function of the office for CBVE would be to serve as an assistance center for the state's postsecondary institutions as they seek to implement CBVE. Local administrators and curriculum specialists responding to our questions frequently noted that they were sure that a great deal of information and help was available, but they were not able to locate it. To effectively help such institutions, an assistance center could offer a host of services, including providing CBVE information and inservice training to faculty and staff, providing expert consulting services on site, locating and arranging for assistance from universities and other sources, and serving as a clearinghouse for the collection and dissemination of instructional

materials produced within the state and elsewhere. Our on-site interviews indicated that these services would be of great value to local postsecondary institutions.

Since the past strategy of CBVE promotion, encouragement, and general assistance to instructors has been of limited benefit, the state should consider the possibility of taking a more dominant role in implementing CBVE in postsecondary institutions. For example, the state could justifiably assume primary responsibility for identifying occupational competencies, producing student learning guides for many occupational programs, providing administrator training in installing CBVE programs, providing hardware and software for instructional media, and using program evaluation as a tool for speeding CBVE implementation.

Several possible state-level activities deserve special mention. Our observation of functioning CBVE programs revealed that the process by which postsecondary schools and colleges identified the occupational competencies to be taught in their vocational programs was usually the weakest and least defensible aspect of CBVE implementation, thus undercutting one of the two essential elements of CBVE. The DVE should consider taking primary responsibility for this important task, using carefully organized, rigorous and uniform competency-identification procedures, such as V-TECS or DACUM analyses. The competency lists or charts so produced could be distributed to all postsecondary institutions, to be used as the basis for instructional content in their programs, either directly or after local verification by special committees of incumbent workers.

As a corollary to the competency lists, the DVE should also consider developing performance assessment instruments for each specified competency. The instruments, in the form of performance checklists, can be readily developed with the assistance of competent instructor/practitioners, and disseminated along with the occupational competency lists. With these two items in hand, postsecondary programs would have a solid base on which to build true competency-based instruction. The lists and checklists would also greatly assist in articulation between programs and institutions. Our information and experience indicates that the lists and checklists, if thoroughly conceived and produced, would be eagerly accepted and fully utilized by postsecondary schools and colleges.

The CAREER MAPs now being produced for some industrial education programs go part way to this end, and are having a mixed reception. A number of schools are using the MAPs as resource materials for developing programs. On the other hand, some curriculum developers and vocational administrators severely criticize the MAPs as being of questionable validity and thoroughly unusable for their declared purpose. It is recommended that as part of its CBVE implementation effort the DVE closely review the competency-identification procedures employed, and the final quality of CAREER MAPs.

The idea of modifying and expanding present work in producing CBVE student instructional materials should not be dismissed out of hand. Respondents in this study report that the student instructional materials now being disseminated by the DVE are often not usable in their programs and that they are "too little, too late." We would add that the materials often do not meet the criteria for appropriate competency-based materials, and that training in their use and application is deficient. Clearly significant changes need to be made if the considerable resources used to produce and distribute instructional materials are to be effective in speeding the adoption of CBVE in postsecondary vocational programs.

The Division should seriously consider producing individual student learning guides in a standard well-proven format. Instructors and education technologists may be employed to help develop the printed and media materials of the learning guides. The guides can be distributed without charge to instructors who have first undergone prescribed training in their use. Both the process and final products should differ significantly from those of the present Vocational Instructional Materials Acquisition System (VIMAS), which has not adequately addressed the need for CBVE curricular materials, either in scope or kind. Production of quality student learning guides for most vocational areas would inevitably increase the implementation of CBVE statewide, and need not cost more than what is now being done.

Another critical activity, inservice education for CBVE, is a long-term state responsibility. Postsecondary vocational instructors and administrators at all levels are in need of this training. For administrators, an intensive initial training workshop on installing and managing CBVE could be provided, along with short annual updates. Instructor training might take many forms, but should emphasize one-on-one assistance, and on-site follow-up workshops. New instructors would be furnished student learning guides only after having had suitable training. Training can be delivered by qualified teacher educators as well as by regional staff members with special responsibility for CBVE.

At the very least, the State Department of Education and DVE should use their influence to help reduce some of the barriers that a single institution finds very difficult to undertake on its own. Funding formulas can be changed to better suit CBVE management procedures, community college regulations should be reviewed and modified to foster CBVE, guidelines of occupational licensure bodies and accrediting agencies should be made more flexible to accommodate CBVE programs, and the Florida Beginning Teacher Program should reflect the needs of vocational teachers who are to initiate CBVE programs.

As it now stands, each institution is coping with these administrative matters as it best can. For example, when an occupational accrediting body questions the school's practice of allowing program completers to exit before they have put in a stipulated number of hours, the administrator may have to provide evidence that

trainees are well prepared and the program actually meets the spirit of accrediting regulations. When reporting student enrollment and attendance data to state agencies, a school may find it necessary to reorganize the data from CBVE programs in order to fit reporting procedures designed for traditional programs. The DVE, working within the Department of Education, should resolve these kinds of questions and conflicts on a statewide basis, freeing individual institutions from the task, and easing the problems of CBVE implementation. The DVE has the necessary influence, it's personnel are well informed of the situation, and it is in a much better position to work with other agencies than are individual schools.

All of the foregoing presupposes the existence of a comprehensive plan for CBVE at the state level, now unfortunately lacking. It is most strongly recommended that a working five-year CBVE plan with periodic updates be developed as soon as possible. The plan should include but not be limited to: (1) phasing of CBVE implementation; (2) competency-identification and assessment instrument production; (3) CBVE instructional materials to be produced, in priority order; (4) personnel development activities to be undertaken; (5) research and development projects to be initiated; and (6) administrative and management problems to be resolved. The plan should also establish timelines and checkpoints for each activity, and the estimated funding required. Such a plan would provide a much-needed framework for decision making. It would ensure that limited resources are used wisely and effectively, and that non-productive projects and activities are avoided. We believe a preliminary working plan, developed by CBVE experts and DVE staff working cooperatively, could be in place within a matter of months. Although careful and thorough planning for CBVE is required, unlimited "planning to plan" can be a strategy for delay, and a way to avoid action. Probably no other single act by the DVE would have a more far-reaching effect on removing CBVE barriers and fostering progress than the completion of a comprehensive plan.

On a more operational level, we recommend that the Division work more closely and effectively with postsecondary schools as total institutions, placing somewhat less emphasis on inducing individual instructors to install CBVE. The institution with its educational climate is the critical mass in successful implementation. Individual instructors, no matter how enthusiastic or hardworking, have a difficult time maintaining CBVE programs if the institution's administration is not knowledgeable or supportive. The most cost-effective approach may be for the state to aid the interested institution in making plans for change, devising management procedures, developing a CBVE model for that institution, and training its personnel. The state office for CBVE, mentioned earlier, could effectively serve vocational institutions by providing the information, resources and expert consulting services that schools require if they are to install CBVE.

Finally, the Division should make a concerted effort to include Florida vocational teacher educators in the CBVE effort. Teacher educators can effectively conduct needed research on the impact of CBVE,

provide inservice training to faculty and administrators, and develop implementation materials. Most importantly, through performance-based teacher education programs, they can prepare vocational teachers in training for what is being established as the expected mode of instruction.

Teacher educators should assume a decisive leadership role in the state's movement toward CBVE; with some exceptions, they are not yet doing so. It may take determined DVE action to effect the change needed. Specifically, there are a number of steps the DVE can take to involve and co-opt vocational teacher educators, including: (1) developing a handbook on CBVE for teacher educators; (2) providing a copy of every CBVE document or material produced by the Division; (3) including teacher educators in curriculum development projects; (4) funding specific CBVE research projects through universities; and (5) assisting teacher training institutions to install and maintain performance-based teacher education and administrator training programs.

Recommendations for Institutional Level Action

Our perceptions are quite clear; the single most important factor in the successful implementation of competency-based vocational education in postsecondary institutions is the local senior instructional administrator. A dedicated, interested, and capable administrator can lead an institution to a fully functioning CBVE system in spite of the barriers that exist, no matter what the state does or does not do. Another administrator who simply allows the faculty the freedom to change and experiment in an atmosphere of laissez-faire may have a few individual instructors who on their personal initiative have established workable CBVE programs. In contrast, a community college or vo/tech center administrator who overtly opposes CBVE will certainly be the head of a thoroughly conventional vocational division.

A postsecondary school led by the right kind of administrator finds no insurmountable barriers to CBVE, no truly insuperable problems. There is little basis in fact for the administrator to declare, "It won't work here," or the instructor to contend that CBVE may do well enough for other, lesser, programs,.... "but my subject area is different." It is our informed contention that every postsecondary vocational institution in Florida can build its own functional model of CBVE and set it in motion. All occupational programs in those institutions can establish the competency-based mode of instruction, certainly incorporating the two essential elements of CBVE, and most probably much more than that.

It is reassuring to report that somewhere, someone seems to have found a reasonable solution to every problem; a strategy to overcome, circumvent, or cope with most every barrier to CBVE. This is not to say that postsecondary institutions find no difficulties as they seek to implement CBVE. What is needed, we find, is the will to do it, the perseverance to find rational answers to the many questions, and the effort to devise practical solutions to the inherent difficulties.

It became evident to the project staff that postsecondary institutions did not really expect to get many answers or practical solutions to CBVE problems from the Department of Education (DOE) or from the Division of Vocational Education (DVE). From the standpoint of local vocational institutions it is as if the Division has no perceptible policy on competency-based instruction, and no particular priority for its implementation. When asked, many local administrators, support staff, and instructors had trouble identifying any help that had come from the DVE. They reported that their primary source of support, assistance, and information was local.

A few curriculum specialists did mention finding useful information and materials with the assistance of the Florida Educational Information Service (FEIS). They also had copies of catalogs produced by the Vocational-Technical Consortium of States (V-TECS) on their shelves, which they apparently used as reference materials. In a few cases, instructors said they received materials from VIMAS, but used them only

for reference. Everything we saw and heard suggests that there needs to be a new and more effective relationship between the DVE and postsecondary institutions working to implement CBVE.

In addition to the recommendations already presented in the preceding section, there are at least two actions the DVE could take to assist more directly the work of postsecondary institutions as they seek to implement CBVE. First, the DVE should make consultants available to the institution's staff to aid in the transition process. A consultant, expert in the practical application of CBVE, could come into the school on invitation to help develop the CBVE model, train staff, suggest solutions to problems, and locate needed additional resources. As an alternative, the DVE might produce a comprehensive "package" of materials to be used by the person in the institution responsible for the CBVE implementation project. Such a package would include all appropriate V-TECS catalogs and how to use them, information on the DACUM analysis process and the charts available, information on producing learning guides and supplies, instructional materials from VIMAS, solutions to management problems, performance-based teacher training modules on how to install and manage CBVE, to name a few items.

Ultimately, however, it is the postsecondary institution itself that has responsibility for organizing its effort to implement CBVE. In the vast majority of cases this means making the transition from an existing conventional mode of instruction, not developing a CBVE curriculum for a new institution. Any institution embarking on this course must have as its navigational chart a sound institutional model of competency-based vocational education. This is a demanding task, and experience shows that it must not be omitted in the haste to get things done. As one very experienced and successful administrator put it, the school administration must "put its own house in order" before proceeding toward CBVE.

Administrators must know <u>why</u> they are contemplating competency-based instruction; it should not be just because it is the current thing to do, nor on the basis of some passing enthusiasm. The administration must believe in CBVE. The college president or vo/tech center director must have a clear vision of what he or she wants for the institution, and how CBVE will contribute to achievement of worthy goals. Other administrative leaders in the school must share the vision and support the goals. When this has been accomplished, the faculty can be asked to contribute to the vision and help formulate plans to make it a reality. At some point in all the discussion, however, the wise administrator will need to say, "This is where we are going, and this is how we intend to get there." At that point, debate and discussion change to planning. If, on the other hand, the administrator waits for a consensus to take over, for some sort of groundswell of faculty opinion to demand CBVE, little progress toward CBVE will result.

If the move toward CBVE is to be accepted, and staff cooperation needed to surmount the barriers ahead is to be gained, there must be a sense of trust throughout the institution. Everything that happens must

be above board. The administration must be open and honest with faculty about the work required, the difficulties that are anticipated, and the rewards that will ensue. Administrators must not "play games" with the faculty in any aspect of the change process. Planning for change must take place face-to-face, not through memos, published edicts, or decrees. At the same time, once the CBVE model is in place the administrator must not vacilate or allow a variety of approaches, otherwise the faculty will get mixed messages about the value of the approach and the institution's determination to move ahead.

A very early step should be to develop a basic philosophy for the institution and its occupational programs, or to review and update an existing one. In this written document the staff should set forth a set of clear beliefs about the purposes of education in general and vocational training in particular; about the institution and its mission in the community; and its responsibilities to the profession, the occupations, and the students. This should be done even for a well established institution or for a small cluster of faculty ready to implement CBVE. Such a document is the foundation of a sound rationale for change, and a description of how the change will benefit students, the community, and the college or school. Armed with a carefully conceived philosophy, administrators and staff are in a strong position to deal with the barriers to CBVE that they will sooner or later face.

There seems little doubt that CBVE is less likely to be fully implemented in community colleges than in area vocation-technical centers. In our view, this is not because there are inherently more severe barriers to CBVE at the community college level, but because academic and degree programs tend to dominate the institution. There appears to be much less willingness on the part of college administrators and academic faculty to allow innovative systematic instruction to be attempted in vocational programs, and there is real resistance even to altering traditional enrollment, grading, or management procedures. To help overcome academic resistance, it is highly recommended that a suitable community college vocational education program be funded and supported cooperatively by the Division of Community Colleges and the Division of Vocational Education to serve as a CBVE demonstration site. The nominated college could work to devise specific solutions to community college problems and disseminate information on the application of the CBVE approach to other similar institutions.

The slower progress of CBVE in community colleges dramatizes the fact that the change is more a "people problem" than it is a problem of funds, regulations, facilities, or materials, though of course these latter factors do figure in strongly. More specifically, the problems are not typically with students but with faculty and staff; their anxieties, fear of the unknown, lack of CBVE implementation skills, and resistance to change. School administrators at all levels must not only provide support in words and deeds, but must be patient and steadfast in that support, not expecting great change or obvious progress in the first year. As various administrators expressed it, there will need to

be plenty of handholding, reinforcement, warm fuzzies, and attaboys in the early stages of transition.

Support for faculty in the process of establishing CBVE programs is needed at two levels. First there is the routine daily support that helps to get the program operating smoothly. This includes providing the services of a curriculum specialist, perhaps an education technician to assist in learning guide production, clerical assistance, media equipment and media specialists to produce instructional materials, and released time or overtime to cover the extra work. The second level is the support and special assistance that is invaluable when the going gets rough. By this we mean incidents such as dealing with powerful outside agencies, acquiring a much needed piece of equipment, defending the program from unwarranted pressures or criticisms, and providing short-term help during a particularly hectic transitional period.

This strongly suggests that the local vocational administrator must lead and assist faculty and staff through the CBVE adoption process. The Concerns-Based Adoption Model described in the introduction to this section can be applied in practical terms to actual school situations. Administrators must go through the adoption process themselves, acquiring cognitive knowledge, special skills, observation experiences, and personal management experiences. Administrators must also lead their faculty and staff through each of the adoption levels, as a group and as individuals, because not all persons will move at the same rate.

It is necessary to provide planned experiences to assist staff in this passage, going from one level to the next in sequence. At Level One, information in the form of workshops, modules, and talks with successful teachers will be useful. At Level Two, training to write student learning guides, help in identifying competencies, and developing preliminary CBVE plans can be provided. Because local administrators are not usually trained in the process of educational change, the DVE should seriously consider extending staff development in this area, and might well provide consultative services to the institution itself.

Making the transition from conventional to competency-based instruction is a demanding and long-term process, usually reported as taking at least three to five years. Successful institutions have recognized this and have planned accordingly. Typically, certain programs in an institution are selected to lead the way; ones headed by innovative faculty, anxious to improve their programs. Other faculty can be allowed to establish CBVE as they are ready; most often as a result of seeing the initial programs succeed. Laggards may need some strong encouragement. It is widely agreed that requiring all vocational programs in a school or school district to change to CBVE at the same time is a recipe for disaster.

Some curriculum development specialists contend that it is feasible for a few courses to be taught concurrently both in the traditional and CBVE mode, depending on the strengths of the instructors involved.

Parallel or alternate courses, it is said, also give students a greater choice, some of whom seem to do better in traditional settings because of their previous school experience. This position points up clearly the undesirability of imposing a uniform or standard model of CBVE for all postsecondary schools and colleges.

As detailed elsewhere in this report, postsecondary faculty need expert and knowledgeable persons to assist them in making the transition to CBVE. Without exception, schools that had made excellent progress toward this end had a curriculum specialist or CBVE project director who was competent and committed to CBVE. Where this key person was missing, or where the designated individual was weakly qualified, progress consisted of a few programs organized and managed by self-motivated instructors.

Outside technical assistance was also extremely valuable, whether this was in the form of a regular consultant or a special staff development program conducted by a teacher educator with expertise in CBVE. It seems an unnecessary self-imposed burden for postsecondary schools to shun consultant services, or dismiss them as too expensive, and close out this kind of help with the contention that "we can do these things ourselves." We are also convinced that systematic institutional staff development programs, now generally lacking, should be integral with the rest of the instructional program; i.e., directly related to the individual needs of each faculty member, competency-based, and self paced. Community colleges and postsecondary schools can organize such programs using available instructional materials, providing a staff development resource person, and requiring participation as a condition of employment.

Many of the identified barriers to CBVE at the institution level are those dealing with management and business procedures. Specific recommendations derived from successful implementers are given in the section of the report that follows. Two points are worth making here, however: (1) institutions planning for the transition to CBVE should start work on attacking administrative change early in the planning process, not after the instructional model has been designed and is under way; (2) if management barriers will not yield to rational solutions and procedural modifications, the senior local administrator should strongly consider reorganizing the institution to make it an integrated, smoothly operating system supportive of the chosen instructional model.

Finally, in the course of this study the project staff heard and read many opinions about the effect on CBVE implementation of funding formulas, state enrollment reporting procedures, definitions of program completers and dropouts, and mandated fee changes. The evidence about these effects was confusing, and sometimes based on misinformation. Some vocational administrators viewed these factors with sincere anxiety for the future of CBVE, others appeared to use them as an excuse for not moving forward. Successful programs had either discovered solutions or had learned to cope with the difficulties. In any case, it seems that a

great deal of energy, much better spent in improving instruction, is being expended in dealing with procedural barriers to CBVE. It is recommended that the Division of Vocational Education work cooperatively with local vocational training institutions to overcome these difficulties, either individually or through the formation of special task forces of interested and knowledgeable vocational educators.

Recommendations for Program Level Action

There are few recommendations in this report that are directed solely to instructors in postsecondary schools and colleges. That is because the solutions to barriers identified in this study are largely out of the hands of faculty. They can participate in planning for and establishing CBVE, and they obviously deliver the competency-based program to students, but their influence is otherwise quite circumscribed. On the other hand, faculty members are mentioned in this report as being barriers to CBVE themselves, though exhortations for them to change their obstructive ways are not likely to be very effective.

The greatest challenge at the program level is for instructors to learn to accept change. The changes demanded of instructors by the CBVE approach are very significant, going to the central idea of what they believe of themselves as teachers. Indeed, it is possible that some will not be able to make the change and will no longer be comfortable in the profession. Instructors must see their primary role not as a deliverer of information, but as that of a learning manager, assisting students to develop occupational skills. Instructors must also accept greater responsibility for organizing instructional programs and for developing instructional materials. These new duties will require reorientation and additional training. Therefore, instructors will need to take responsibility themselves to get the training they need.

It is incumbent upon teacher training institutions to assist vocational instructors in developing the skills they need at two levels. First, teacher educators should aid local institutions in training instructors in the special skills they require to establish and maintain competency-based instruction. This should be done as a phase of initial certification training in regular degree programs, and in special workshops. Through research we have identified these skills, and every teacher in training, without exception, should achieve them. Secondly, the mode of teacher training should allow teachers to personally experience this form of instruction. Vocational instructors, most particularly those coming directly from business and industry and whose formal schooling took place several years ago, probably have experienced only traditional time-based instruction.

At present, the majority of Florida's vocational teacher education programs do not adequately prepare teachers for CBVE in either of these ways. Every influence from the state, from institutions, and from vocational instructors themselves should be used to remove this substantial barrier to CBVE. The support that DVE has given to institutions to develop performance-based teacher education programs and the recently published position paper on PBTE should serve as a foundation for this effort. There is no lack of successful models on which to build. However, the difficulties inherent in changing university programs, and lack of commitment to CBVE appear to stand in the way of the much needed revision.

In spite of the efforts of vocational educators at state, regional, and university levels, there is still a great deal of misinformation and misapprehension about CBVE among postsecondary faculty. Our own experience agrees with that reported by the MGT study. Instructors believe they will lose their jobs when CBVE is established, they believe CBVE can only be applied to simple trade training, they speak of "horrendous" recordkeeping requirements even though they have never managed a CBVE program, they have erroneous notions about CBVE and DVE program approval. To counteract misinformation and provide accurate information among instructors we have two recommendations: (1) post-secondary instructors should be strongly encouraged (and given incentives) to acquire information and personal experience relative to CBVE through self study, formal courses, observation, and special workshops; and (2) every level of vocational education should continue to extend appropriate CBVE education and training opportunities, and should improve its training methods. The DVE could organize "prepackaged" workshops which could be delivered at any postsecondary school requesting them. Presentation could be done by DVE personnel and vocational teacher educators.

The potential for improvement of vocational education that CBVE affords can be enhanced or can be destroyed at the program level. CBVE can be severely weakened if an occupational program uses lax procedures for identifying competencies or if instructors continue to rely heavily on paper-and-pencil tests to measure student "performance." Some instructors have difficulty giving up lecturing to the total group, others find reason to retain students in the program even after the students have completed the requisite competencies. Even though we must require high standards of CBVE implementation, there must be enough flexibility in defining competency-based instruction to allow individual programs to meet the special needs, and perhaps limitations, of their respective institutions, communities, and students. It is recommended that the DVE assist local programs by completing work on a CBVE evaluation model that accurately assesses the degree to which the essential elements and facilitating components of CBVE are present in a particular program. The process of modifying and altering CBVE has already taken place to some degree. To help avoid detrimental tampering with the concept of CBVE, clear and realistic standards of program performance are needed urgently.

Possible Solutions for Overcoming Individual Barriers to CBVE

In this part of the report we present for each validated barrier one or more solutions that potentially could be used to overcome the barrier. We use the term solution in a generic sense. What is included for each barrier, depending on the nature of the barrier, might be a strategy or it might simply be a coping mechanism. Or, it might be one or more of each of these. In addition, comments qualifying the strategy or coping mechanism, or citing limiting conditions might also be included.

The strategies or coping mechanisms included in this section were derived from all information obtained during the conduct of this project, from the literature review, from one or more of the force field conferences, from the site visits and from telephone conferences with institutional and agency representatives. The strategies and coping mechanisms given are based on solutions to barriers experienced in implementing CBVE that have actually been used successfully or that are believed to be feasible and effective.

Actual formulation of the strategies and coping mechanisms is the product resulting from consensus among the project staff. Suggested solutions that appeared to contravene accepted practice or procedures have been deleted. On the pages that follow, the barrier statement is given, then a series of solution strategies are presented. The strategies are not listed in any particular order of importance, neither are they assumed to be equally effective in any given situation, and in some cases may even be considered contradictory. It is assumed that vocational educators will make judicious selection from the many possible alternatives.

BARRIER A-1

Administrators express a negative attitude about CBVE, fail to conceptually support its development and/or fail to demonstrate commitment to CBVE goals.

COMMENT

The attitudes, opinions, motivations, goals, and objectives of administrators as a group within an institution typically reflect these same characteristics for the institution itself. Solutions for barriers like those in Group A must be viewed not only in terms of the administrators as individuals but also in terms of the institution as an organizational entity.

POSSIBLE SOLUTIONS

A-1-1 Provide incentives from the state level for institutions to implement and maintain CBVE. (See solutions for Barrier L-7 for a discussion of possible incentives.)

A-1-2 When initially implementing CBVE, do not limit the focus of attention just to one or more instructional programs, but also include adaptations in administrative policies and procedures necessary to support CBVE.

A-1-3 In state or regional meetings of administrator groups, provide coverage of CBVE. Have administrators discuss and help solve each other's problems. Make implementation and operation of CBVE the expected mode of operation in Florida.

A-1-4 When filling a new administrator position or when replacing a departing administrator, be sure that an understanding and acceptance of CBVE are specified as requirements for recruitment and selection. Also be sure that willingness to operate school programs using the CBVE mode is the expectation.

A-1-5 School administrators need to get their own house in order before they ask faculty to get involved in change to CBVE. Administration should develop a rationale for the implementation of CBVE and the place of CBVE within the philosophy of the institution.

A-1-6 Present DVE-sponsored training sessions on CBVE for vocational administrators. This would include presentation of DVE commitment to CBVE, its comprehensive plan for CBVE, and the various resources available to institutions and faculty.

BARRIER A-2

Vocational educational administrators and others know little about CBVE, its essential elements and requirements.

COMMENT

Solutions for Barrier A-1 are also relevant.

POSSIBLE SOLUTIONS

A-2-1 When planning and conducting institution-based inservice activities dealing with CBVE, include administrators together with faculty.

A-2-2 Use the Florida Vocational Educator's Annual Workshop to provide staff development for administrators on operating CBVE programs.

A-2-3 Provide DVE-sponsored intensive summer workshops for administrators at sites such as Ridge, St. Petersburg, and Erwin Area Vocational Centers.

A-2-4 Administrators should avail themselves of training programs in CBVE implementation, such as those offered at universities, through national vocational development centers, and state workshops. They should participate fully in this training, not function merely as observers or auditors.

BARRIER A-3

Administrators lack the skills needed to develop daily routines and management procedures for CBVE programs.

COMMENT

Solutions A-1-3, A-2-1, and A-2-3 are relevant.

POSSIBLE SOLUTIONS

A-3-1 At state level, develop an administrator's CBVE management and administrative procedures guide, including specific techniques, strategies, and procedures for establishing CBVE in local institutions.

A-3-2 Provide administrators opportunities to visit institutions in Florida and in other states where CBVE is being operated and managed effectively.

A-3-3 The state should expend more effort and resources for working directly with schools and colleges as institutions to implement CBVE with less emphasis on CBVE training for instructors. Without institution commitment and expertise, individual instructors will not be very effective or successful in implementing this approach.

BARRIER A-4

Administrators are not willing or don't know how to provide the faculty inservice, special resources, and motivation needed to overcome faculty resistance to change.

POSSIBLE SOLUTIONS

A-4-1 Administrators must first overcome their own resistance to change and embrace CBVE unequivocally before they can meaningfully help faculty.

A-4-2 DVE/DOE must provide incentives to administrators (and show support to them) in order to make the change to CBVE more attractive.

A-4-3 Outside consultants can be used to help faculty deal with the change process. Applying group dynamics techniques, workshops on this topic can lead faculty to recognize their concerns and formulate plans and activities to overcome concerns.

A-4-4 Contract with an outside expert in the implementation of CBVE to work with administration and faculty on a regular basis during the first year of the process. Working in the school one or more days a week, the consultant can assist staff to design the program model, provide training as needed, and help overcome specific problems as they arise. Such a person has the freedom to solve problems when and where they arise, without going through the institutional chain of command. Monies for this can come from staff development or TEC funds.

A-4-5 At the institution level, set up a CBVE steering committee that meets on a regularly scheduled basis to develop overall plans for implementing CBVE, to set policy regarding CBVE, and provide general oversight for the CBVE effort. The steering committee of five to ten members should include representatives from administration, support staff, and instructors.

BARRIER A-5

Administrators believe CBVE is more costly to start up and establish than conventional vocational education.

COMMENT

When administrators unequivocally embrace CBVE, concerns dealing with comparative costs of conventional and competency-based instruction will seem to be much less of a barrier. Solutions A-1-3 and A-3-2 are also relevant.

POSSIBLE SOLUTIONS

A-5-1 At the state level, consider developing and periodically publishing cost comparative information for vocational programs and institutions. (Example: NCHEMS Systems for Higher Education.)

A-5-2 At the state level, conduct detailed cost studies on establishing CBVE, using as a basis the experience of a range of school types and sizes. Disseminate the results to local vocational administrators.

BARRIER B-1

Faculty have a negative attitude toward CBVE and generally resist change. There are several parts:

POSSIBLE SOLUTIONS

B-1-1 Accurately inform faculty about CBVE, its essential features, its demands and how it has affected teachers, teachers' positions and modes of instruction and classroom management. Deal with faculty openly and honestly at all times.

B-1-2 Provide opportunities for instructors to visit institutions and relevant programs to observe CBVE in operation. Allow enough time for instructors to interact with qualified CBVE instructors in their own occupational areas, ask questions, review materials, and talk with students. Give instructors an opportunity to experience CBVE as a student in their own areas.

B-1-3 Include teachers and administrators together in institution-based inservice activities dealing with CBVE. (See Solution A-2-1)

B-1-4 Include teachers with administrators in planning for implementation of CBVE. Teachers can serve on the CBVE steering committee and on special CBVE task forces.

B-1-5 Establish implementation of CBVE as an institutional goal or objective. Periodically measure program and institution progress toward this goal and provide status reports for circulation throughout the institution.

B-1-6 Provide incentives for teachers who effectively implement and operate CBVE. Incentives might include:

- Positive annual evaluations, preferences for promotion, and preference for other favorable personnel actions.
- Preference for inservice activities, particularly those where the teacher can visit other institutions or professional groups to explain what they have accomplished.
- Preference for special assignments.
- Recognition within the institution and professionally.

B-1-7 Avoid reinforcing the behavior of teachers who resist implementing or operating under CBVE.

B-1-8 Provide support (e.g., A/V equipment, supplies, curriculum development specialist, clerical support), to those faculty willing to change to CBVE.

B-1-9 Establish CBVE as the norm for the institution, not an option, an innovation, or experimental program. Allow and encourage faculty to move toward the norm without loss of status or self confidence. Allow peers exert influence in helping resisting instructors move toward institutional expectations.

BARRIER B-1-a

CBVE is not perceived by faculty as an improvement over the existing model.

POSSIBLE SOLUTIONS

B-1-a-1 Arrange for faculty to visit successful CBVE programs (see B-1-2).

B-1-a-2 Develop and provide to faculty an institutional rationale for implementing CBVE. Base the rationale on the mission of the institution, its philosophy, the educational setting, and the community. Show how CBVE can enhance the performance of the institution in light of its stated goals.

BARRIER B-1-f

Faculty believe they will be spread too thin and there will be new demands on their time after CBVE is implemented.

COMMENT

Solutions cited for Barrier B-1 should alleviate faculty concern.

POSSIBLE SOLUTIONS

B-1-f-1 Faculty need forthright and accurate information on the demands of CBVE so they can plan to cope with them. They also need to know the kinds of assistance and support that they can count on to meet these demands.

BARRIER B-2

Faculty have insufficient knowledge about CBVE, are misinformed and have inappropriate ideas about it, and are not aware of opportunities to learn the skills needed to implement CBVE.

COMMENT

Solutions for Barrier B-1 are relevant.

POSSIBLE SOLUTIONS

B-2-1 When hiring a new or replacement faculty member, establish the requirement that applicants, as a condition of employment, must either be thoroughly knowledgeable about and competent in CBVE or willing to learn and operate their program in the CBVE mode.

BARRIER B-3

Faculty are not provided the released time they need to develop and reorganize programs into a CBVE format.

POSSIBLE SOLUTIONS

B-3-1 Hire new teachers for a period of time (two weeks to one month) for program development prior to opening a new program.

B-3-2 Use summer employment of experienced teachers for curriculum/program development.

B-3-3 Provide staff support (clerical, writing, curriculum assistance) to assist teachers during the regular school year.

B-3-4 Use Teacher Education Center (TEC) staff development components to assist teachers in program development activities.

B-3-5 Provide released time for summer work, or for scheduled time during the school year. Rotate released time among departments that need it. Use monies from staff development or curriculum development funds.

B-3-6 Make simple contractual arrangements with faculty so that the work promised for released time actually gets done.

B-3-7 In order to make best use of faculty time in implementing CBVE, develop institutional models, formats, and procedures that faculty can use. This may include a format for learning guides, design of classroom resource centers, standard record keeping forms, etc.

B-3-8 Develop an individual plan with each instructor for the gradual implementation of CBVE in his/her program so that the need for released time is minimized. In such a plan the goals for the first year might be identifying competencies and developing assessment instruments; second year, teaching the competencies using available materials; third year, completing individual learning guides for each competency.

BARRIER B -4

Faculty are made responsible for program development but lack the skills needed to organize and produce the required support materials.

COMMENT

Solutions B-3-3 and B-3-1 are also relevant for this barrier.

POSSIBLE SOLUTIONS

B-4-1 Use the institution's staff development program to provide systematic training for faculty on the skills they need. Identify needed skills through an analysis or needs-assessment process, then organize a program to deliver on these.

B-4-2 Provide individualized teacher training modules to help faculty acquire skills needed to organize CBVE programs and produce support materials. These modules, based on research, are now available from a national source, and not only deliver on the needed teacher skills, but also afford the teacher-learner the experience of learning in an individualized, competency-based mode. Provide a staff development resource person to aid faculty in completing the modules.

B-4-3 Organize an intensive training program for interested faculty in the time before the fall session begins. Depending on the time and resources available, this could be as little as two days or as much as two weeks. The training program can be conducted by school support staff and/or outside consultants.

B-4-4 Arrange with a nearby university for a credit course on CBVE development to be delivered on the school site at a time convenient for faculty. The credit might apply to a degree or for certification. As resources permit, tuition fees can be paid by the school out of its staff development funds.

BARRIER B-5

CBVE requires faculty be up-to-date in their fields, but schools provide very few opportunities for faculty to update their technical skills.

COMMENT

This barrier is perceived to be of more concern to CBVE than to conventional vocational education because instruction for every competency must be provided. Competencies cannot be glossed over or be given little attention just because the instructor is ill prepared.

POSSIBLE SOLUTIONS

B-5-1 Whenever institutions can't or won't provide faculty inservice, each professional must assume responsibility for his/her own development.

B-5-2 Continue to maintain contact with former students who are employed in relevant occupations.

B-5-3 Use contacts with program advisory committee members to learn of new practices, equipment, etc. on the job.

B-5-4 Take advantage of DVE-sponsored summer technical update workshops.

B-5-5 Obtain summer employment in the occupational speciality to learn new skills.

B-5-6 Design a special staff development plan for each occupational instructor to provide for updating his/her technical skills. The skills to be updated are drawn from those on the list of occupational competencies for the instructor's own program; ones that he/she acknowledges require additional training, study, and/or practice. Thus the planned technical training has practical value and sharply focused objectives.

B-5-7 Invite outside experts to teach the class specific skills in which the regular instructor feels less than fully qualified or prepared. The regular instructor can increase his/her own technical skills in the process, by learning from the outside expert. If videotapes or other recordings are made of these sessions, the instructor can review them for his/her learning purposes.

B-5-8 Organize a field-based component for the occupational training program. This will provide instruction and experience for the student that the regular instructor may not be able to provide. It also allows the instructor to visit the site and observe current practice in the occupation. The information thus gained can be used by the instructor to strengthen the school-based program.

B-5-9 Organize and maintain, through the staff development office of the school, a job placement exchange with local business and industry. Faculty can work on the job during summers or other prearranged times to enhance their occupational skills. Members of the program's advisory committee or DACUM analysis committee are often very cooperative in accepting instructors as temporary employees.

BARRIER C-1

Few schools and colleges have CBVE-trained curriculum and program development specialists to assist faculty members with program start-up and operational updates.

COMMENT

The presence of one or more qualified curriculum specialists who assist and coordinate faculty in program and curriculum development tends to differentiate clearly institutions that have successfully implemented CBVE from those that have not. Just the presence of a curriculum specialist on the staff does not ensure the successful implementation of CBVE, however. The curriculum specialists must be thoroughly knowledgeable about CBVE and committed to it, as well as being strongly supported by administrative commitment and policy.

POSSIBLE SOLUTIONS

C-1-1 Don't wait for or expect special funding to hire a CBVE curriculum specialist. Rather, revise institutional priorities and hire a qualified person using the funding resources the institution already has.

C-1-2 When hiring a curriculum specialist for vocational education (full-time or part-time), establish the requirements that applicants must be knowledgeable about and accept unequivocally the concepts of CBVE and must demonstrate competence in CBVE as a condition of employment, or must make a systematic and urgent effort to become prepared in implementing CBVE.

C-1-3 Reorganize the job responsibilities of administrators or support staff so that an existing staff member can devote full time to function as CBVE curriculum developer and specialist. If additional training is required by the individual to function effectively in this role, arrange for time and resource for this to be done.

BARRIER C-2

Persons responsible for curricula change are not provided with appropriate authority and influence to make decisions and carry out plans.

POSSIBLE SOLUTIONS

C-2-1 Authority to effect curricula changes can be delegated effectively to department chairpersons or to institutional curriculum specialists. Support by the administration for authority delegated is essential.

C-2-2 Organize special task forces or committees to propose solutions to specific curricula problems; e.g., the process for identifying competencies, grading standards and procedures, production of individualized instructional materials. Such committees can be given authority to develop solutions, with final ratification by the local vocational administrator.

BARRIER C-3

Faculty have little access to clerical help needed for CBVE development and start-up.

POSSIBLE SOLUTIONS

C-3-1 Student learning modules, the major demand in CBVE for clerical help, need not be produced in great haste to put a program into CBVE operation, but may be produced over a period of time as rapidly as resources permit.

C-3-2 Use student financial assistance (where available) for work-study to hire students to assist with clerical tasks in support of teachers.

C-3-3 Hire clerical staff for assignment with the curriculum specialist to prepare needed documents and materials.

C-3-4 Use word processing equipment to prepare instructional materials. This improves the quality of the product and greatly facilitates the revision of materials. Productivity of clerical staff is greatly increased.

C-3-5 Acquire competency-based instructional materials available from outside sources; e.g., VIMAS, other CBVE institutions, commercial publishers. Use FEIS or other computer search to locate available materials and avoid making adaptations or revisions as much as possible. Apply a set of criteria to potential materials to be sure that they are suitable for the local program.

C-3-6 At the state level, produce learning guides for the most numerous vocational programs so local instructors need not do so. The learning guides should be carefully designed to CBVE standards, should be of simple standard format (i.e., nationally accepted ones), and be based on identified competencies.

BARRIER D-3

Students expect to complete vocational programs in a specified number of hours.

POSSIBLE SOLUTIONS

D-3-1 Provide new students an adequate orientation and introduction to CBVE by explaining how it works, what responsibilities the student has, and what benefits the student can expect.

D-3-2 Gather data on the average number of hours students take to complete the occupational program ("standard hours"). Make this data available for entering students so they can plan their training.

BARRIER E-1

CBVE requires that training be supported with up-to-date and appropriate equipment. Schools find it difficult to obtain the equipment, keep it current, and maintain it in proper working condition.

COMMENT

Although this barrier is applicable to conventional vocational education as well as CBVE, its impact on CBVE is appreciably more demanding (see B-5).

POSSIBLE SOLUTIONS

E-1-1 Lease rather than purchase instructional equipment likely to become obsolete soon.

E-1-2 Unlike conventional vocational education, once competencies have been identified as the foundation for CBVE, it is essential that each major type of equipment specified by the competencies be available through the instructional program. The fiscal practice of sub-allocating all financial resources for equipment acquisition to departments does not provide sufficient funds to any department for meaningful acquisitions. Since funds cannot be saved from year to year to accumulate enough for a meaningful purchase, they typically are used for small, non-essential items. Rather,

- Retain and pool all funding for instructional equipment at the institution level.
- Develop and maintain as a working document a long-term (five year moving period) institutional plan for equipment acquisition. The plan is basically a list of new and replacement equipment requirements for the entire institution arranged in priority of need.
- Expend funding for instructional equipment according to the plan.
- Modify and up-date the plan and revise priorities as often as necessary.

E-1-3 Arrange with employers to send students for hands-on experience on specific items of equipment that the institution does not possess or cannot afford to purchase but that are required as a result of an occupational analysis.

E-1-4 Arrange with business and industry for the loan of needed equipment on a short-term basis.

E-1-5 Acquire only that equipment that is directly required for instruction in the specified program competency list. Dispose of (sell or trade) equipment that is not required to teach program competencies, even though it may be traditionally a part of such programs or favored by the instructor.

E-1-6 Use the program's DACUM chart or competency list to solicit the donation of needed equipment. Local business and industry are especially cooperative when it is shown that their future employees need the training that the equipment helps provide. DACUM committee members may be particularly helpful since they were the people who actually identified the need for training.

E-1-7 An occupational training program need not be bound to provide training on every competency on the occupational analysis list or chart. The lack of certain equipment may make this impossible. However, by giving the student a transcript showing which skills were actually achieved (and at what level) rather than just the titles and grades of courses, the school can be fair to the student and honest to the occupation as to the extent of training.

BARRIER E-2

Physical facilities designed for conventional programs are often ill-suited for the multiple activities of CBVE.

COMMENT

This barrier tends to have more applicability for community colleges than for area centers. While some facilities may be deficient, except for the requirements for student safety, facility demands are less important and influencing for CBVE implementation and operation than other resource requirements such as qualified instructors, adequate instructional equipment, suitable instructional materials, etc.

POSSIBLE SOLUTIONS

E-2-1 Use existing bookcases and furniture to partition off necessary "quiet" study and resource areas.

E-2-3 Organize facility to allow student movement to the school resource areas and to needed supplies.

E-2-4 When minor facilities construction is needed, school district building construction classes can make modifications as legitimate class activities.

E-2-5 Set up learning resource centers in the classroom or laboratory. These need not be elaborate or expensive if resources do not permit; study tables at one side of the room, shelves for media materials, selected media equipment for student use, and a file cabinet for learning guides will suffice. Of course, more extensive facilities will enhance the program, if resources are available.

E-2-6 Rearrange space and equipment within the confines of existing classrooms and laboratories. An area for small group instruction may be desirable, separate work stations for individual competencies can be set up, a performance assessment and conference area often facilitates that aspect of the program. Usually, far less space is required for total group instruction than in conventional programs. In all, however, only modest changes to facilities are needed.

BARRIER E-3

Schools have difficulty keeping facilities open and available when needed by individual students beyond normal hours of operation.

COMMENT

The definition of "normal hours" needs to be determined for each institution. Generally this has been found to be the announced class times for a specific class rather than the number of hours per day or week that a lab or shop was open. Indeed, many instructors do not allow students in their facilities after announced "class" hours and the only time a student may practice skill development is during such hours. These instructors value the matter of attendance at class. Availability anytime is probably not a mandate of CBVE or at least in contrast to CBVE essentials, this is not particularly important.

POSSIBLE SOLUTIONS

E-3-1 Where part-time evening programs exist and operate like counterpart full-time programs under CBVE, allow students enrolled in either program to use the facilities anytime the lab or shop is open and under supervision by any instructor.

E-3-2 Every unit of the school, and all personnel, should work together to foster the CBVE program. This may mean that the custodial staff will need to open classrooms or labs for students, or arrange cleaning hours that will not interfere with student work. Instructors can oversee student use of each other's facilities. Teachers' aides can be used to supervise open lab times.

BARRIER E-4

Individualized CBVE programs require use of more audio-visual equipment and materials which are difficult to obtain and maintain.

POSSIBLE SOLUTIONS

E-4-1 Develop and install an institutional A/V distribution system which links each instructional area with the central learning resource center so that upon request the LRC can provide any A/V item to any remote receiver in the instructional area.

E-4-2 Adopt acquisition procedures for A/V equipment and material suggested for instructional equipment (see Solution E-1-2).

E-4-3 Use a school-wide format for all A/V materials and equipment (e.g., use only one type of video tape equipment -- beta or VHS -- for slides, use only one brand of projector like Caramate).

E-4-4 Purchase maintenance agreements on media equipment to keep equipment on line and available to students.

E-4-5 Avoid acquiring A/V equipment that is traditionally used only by instructors for large-group instruction (e.g., 16 m.m. projectors, overhead projectors). Expend available funds on equipment that enhances individualized self-paced instruction (e.g., video playback units, slide/tape viewers).

BARRIER E-5

CBVE instructional programs require more printed materials and instructional supplies than conventional programs. Printing, storing and distributing learning guides and individualized learning materials require a great deal of resources.

POSSIBLE SOLUTIONS

E-5-1 Pass costs of printing on to students who retain the material anyway. Sell such material through the school bookstore.

E-5-2 If the institution provides an instructional program in printing or reproduction, utilize the equipment in this program for institutional printing support, and utilize students to operate the equipment in a simulated work situation.

E-5-3 Adopt a school-wide format for printed instructional materials allowing development to be done by a limited number of support staff.

BARRIER E-6

Schools have difficulty keeping CBVE curriculum materials current, especially in rapidly changing occupations.

POSSIBLE SOLUTIONS

E-6-1 In producing curriculum materials, concentrate initially on those competencies that are fairly stable, and substitute learning materials that are already available, such as reference manuals workers use on the job.

E-6-2 Use the most up-to-date reference material from industry (manuals, service bulletins, etc.) to keep current with the changes.

E-6-3 Use VIMAS to identify reference material for a wider range of programs and do not attempt to adapt or develop materials at the local institution.

E-6-4 Organize procedures for the regular periodic review of existing instructional materials. For most programs, the review cycle may be every three years. For some rapidly changing occupations, it may be necessary to review materials each year. Stagger the program cycles so there is a fairly even workload each year for curriculum specialists and clerical assistants.

E-6-5 Store text for all instructional materials on work processing diskettes. This allows changes to be made only where necessary and avoids the inefficiency of retyping and reworking entire documents.

BARRIER F-3

Curricula materials sent by the State are inadequate or too little, too late.

COMMENT

Although this barrier is listed under Group F, its suggested solutions appertain to the State level. Accordingly, see solutions listed for Barrier Group L.

POSSIBLE SOLUTIONS

F-3-1 Curricula materials developed by the state should all be in a standard format for ease of production and for the efficient training of teachers.

F-3-2 Teachers should attend DVE-sponsored training sessions on the use of materials in order to be eligible to receive them.

F-3-3 Tie the state's production of curricula materials and needed A/V materials to a comprehensive state plan for implementation of CBVE. Produce instructional materials according to the priorities established in the plan.

F-3-4 Establish a statewide consortium or clearinghouse for post-secondary institutions so that CBVE materials produced at one institution are available to all. Again, a standard format will facilitate the dissemination and use of such materials.

BARRIER F-5

CBVE program designs require faculty to spend inordinate amounts of time and effort in student record keeping and reporting.

POSSIBLE SOLUTIONS

F-5-1 Create and duplicate student progress forms to be maintained manually. Competencies that are included in the student's program are listed together with assessments to be accomplished during the learning process.

F-5-2 Create a separate progress file for each student that contains progress forms and notes applicable to the student. Require each student to maintain his/her own progress file. Instructors will initial satisfactory achievement for each assessment.

F-5-3 Post each student's progress chart on a bulletin board rather than create a separate file.

F-5-4 Adopt and implement a computer-based CBVE information system similar or identical to the system currently being developed and tested at the St. Petersburg Area Vocational Center for application and use by individual teachers using classroom-based microcomputers, or by institutions using main-frame computer systems.

F-5-5 Use aides or volunteers to assist with routine clerical work such as posting of program records and maintaining files.

F-5-6 At the state level, develop alternate computer-based record keeping systems for small vocational programs using micro-computers as well as for larger systems.

F-5-7 Organize routine record keeping so faculty enter competency achievement ratings in a standard grade book, then transfer to the institution's official records at regular intervals (e.g., once each week).

BARRIER F-7

CBVE does not well fit traditional grades or institutional grading procedures.

COMMENT

This barrier exists apparently because either institutional or county policies mandate use of a single grading system, usually the traditional letter or number grade continuum. Employers appear to desire information about what learning experiences the student has had in school, not only in terms of the grading continuum but also in terms of specific tasks or competencies that the student has acquired at the school.

POSSIBLE SOLUTIONS

F-7-1 Given the large environment within which CBVE programs must operate, the probability that any institution or county will only permit one overall grading system to exist, and the highly remote chance that the dominant forces in the grading system will adopt a vocationally tailored grading system, the CBVE community must adapt to traditional grading practices.

Determine and adopt a reasonable basis to differentiate grade levels above the minimum acceptable level of performance, maintaining the basis principles and facilitating practices of CBVE. Whatever basis is adopted, preserve "real world" job relationships; i.e., what characteristics of actual job performance and behavior are rewarded. A number of possible bases have been used:

- Time required by individual students to complete the program measured against standard time for the program.
- Attitude, motivation, and cooperating with others; i.e., the affective domain influences.
- Quality of performance as established and specified in advance and as usually measured by the quality of the product produced.
- Ability or potential capability of the student to supervise, instruct others, and assume responsibility; i.e., the leadership attribute.

F-7-2 Provide students as part of the documentation received on completing the program a listing of the competencies included in the instructional program. Preferably include the list of competencies satisfied on the reverse of the student's program completion certificate. Either print all competencies and check those applicable to the individual student, or use word processing methods to type on the reverse of the certificate just those competencies applicable to that student. Include the student's rating on each competency and a rating key.

F-7-3 Develop an alpha/numeric rating scale that can be converted to a traditional grading system, but which includes worker descriptive criteria rather than simple, vague terms such as excellent, good, fair, or poor. Give a rating for each competency that a student masters.

F-7-4 Individual student records (transcripts) should show: (1) each skill achieved and the level (rating) of achievement, (2) an overall grade, if required by the institution or school system.

F-7-5 Abandon the traditional letter grade system entirely. Determine a performance rating for each competency the student achieves. Adopt or adapt a rating scale from among those found useful and successful at CBVE institutions (usually a five level scale based on occupational standards).

F-7-6 Apply a "mastery - nonmastery" rating for each competency, although this does not allow the instructor to acknowledge outstanding levels of achievement.

F-7-7 For in-school grading and for motivational purposes only, separately determine a letter grade that combines achievement of competencies with employability skills (e.g., amount of work accomplished, attendance, punctuality).

BARRIER F-8

It is difficult to get faculty and institutions to accept the demands of open-entry/open-exit.

COMMENT

Demands of open-entry/open-exit from the standpoint of an institution are primarily those of accommodation and adaptation for admission and registration procedures, and for procedures incident to program completion and termination. Finding acceptable and workable accommodations is not difficult once the institution and its administrators have embraced open-entry/open-exit and seek its implementation. Effective CBVE is enhanced by open-entry/open-exit but CBVE implementation and operation is not dependent on whether the institution uses this device. Demands of open-entry/open-exit from the standpoint of faculty are largely those of adjustment in teaching style from dealing with a "class" as an instructional entity to dealing with each student individually. The instructional program must include providing the student with appropriate self-paced learning materials and activities.

POSSIBLE SOLUTIONS

F-8-1 If the institution decides to implement open-entry/open-exit for some programs and to retain the existing scheduled-entry/scheduled-exit procedure for other programs and retain the semester/quin calendar:

- Continue to use existing group-based admission and registration procedures but be prepared to operate these procedures every day for one or just a few students. Experience shows that open-entry/open-exit serves to level the admission and registration workload throughout the semester and actually reduces administrative effort. Also use of this procedure allows persons in student services and the business offices to become thoroughly competent in registration, thus avoiding the re-learning of procedures with their attendant errors when registration is performed only between semesters.

- Calculate tuition and fees for entering students on a pro-rata basis for the period from the entering date until the end of the current semester.

- Re-register enrolled students for subsequent semesters in classrooms or by mail.

- Calculate refunds due students who complete/terminate a program prior to the end of the current semester on a pro-rata basis for the period from termination to the end of the current semster.

- Provide completing/terminating students certificates, transcripts, lists of competencies acquired, letters of recommendation, etc. when they terminate.

F-8-2 If the institution decides to fully implement open-entry/open-exit and to discontinue the semester/quin calendar and its group-based admission and registration procedures:

- Continue at least initially to use existing group-based registration procedures and forms. But be prepared to accomplish admission and registration for individual students every day. Develop specialization for admission and registration procedures in both student services and in the business office. Once a student is properly registered in the institution and in a program, there is no need to periodically re-register unless the student changes programs. As open-entry becomes routine, develop simplified admission and registration procedures and forms and adopt a computer-based system whenever possible.

- Calculate tuition and student fees based on standard hours for the program in which the student is enrolled.

- Send students bills for subsequent increment payments when due to include the final increment determined by virtue of the student still pursuing the program rather than consumption of standard hours.

- Upon completion or termination, calculate refund due for tuition and fees on a pro-rata basis according to the unused time remaining in the final increment.

F-8-3 Provide an explanation for faculty covering the benefits of open-entry/open-exit in terms of placement of program completers in relevant occupations. When completers are distributed throughout the year rather than once each year as is usually the case, the teacher can become personally involved in placement of his/her students. Such involvement would be impossible with the scheduled-entry/scheduled-exit system. Students entering the occupation all during the year have increased opportunities for jobs and better pay than if they flooded the market at two points in the year.

F-8-4 Instructional programs using open-entry/open-exit must be prepared to accommodate incoming students by using individualized instruction and self instructional materials.

F-8-5 Use modified open-entry procedures such as providing for enrollment one day a week, monthly, each quinmester, to avoid disrupting ongoing instruction. Frequent periodic enrollment has been found to be fair to prospective students and considerate of instructors.

F-8-6 Open-exit can be used with any registration schedule providing records can be generated and faculty, registrar, and administrators are willing to let students leave.

F-8-7 Produce videotapes or slide/tape presentations of orientation information. These can be made for the institution and/or for individual vocational programs. Media materials can be viewed independently by entering students as they are enrolled and processed, making it more convenient for the staff to provide open-entry.

F-8-8 Develop for each occupational program a student learning guide (or short series of guides) to be completed by a student whenever he/she enters the program. The learning guide gets the student started in the program, explains the learning process, helps the student locate facilities and materials, etc. Depending on the complexity of the program, this introductory experience may be designed to take the students through the first hour or two to as much as two days.

BARRIER F-9

It is difficult to schedule and use limited clinical facilities in health programs under CBVE.

POSSIBLE SOLUTIONS

F-9-1 When more than one institution or instructional program is competing for limited clinical facilities, establish a community coordinating group consisting of both instructional program and clinical institution representatives to work out and oversee schedules for use of clinical facilities and related matters.

F-9-2 Provide school developed criterion-based assessment instruments for use by clinical instructors and train these persons in the school's CBVE assessment procedures.

F-9-3 Establish a clinical experience program in which clinical instructors have a constant number of students in the program. As a student achieves required clinical competencies and exits the program, another student is placed in the clinical setting to fill the work station. The clinical facility will thus have a steady supply of student workers, and the self-paced mastery model of instruction can function unhindered by scheduling problems.

F-9-4 Organize the health occupations program on the competency-based model in the classroom and laboratory. For the clinical experience, however, organize that part of the program on a scheduled, time-based system. Students can be sent out to clinical facilities in small groups several times a year, and complete the experience with their group. Students are not approved for clinical experience until they have achieved all required classroom and laboratory competencies.

BARRIER F-10

Program competencies are not standardized among State vocational schools. Thus, students who transfer have difficulty in completing programs and may have to repeat segments.

COMMENT

Consideration of the need and potential for standardization in expression of competencies for instructional programs involves state level solutions which collectively are included under Group L barriers.

POSSIBLE SOLUTIONS

F-10-1 Adopt a rigorous occupational analysis procedure for all state-developed competency lists. Provide quality control procedures to ensure that all such lists meet the highest standards of CBVE.

F-10-2 At the state level, develop final performance assessment criteria for each competency (in checklist form) to be distributed with competency lists. These checklists can be developed by designated occupational instructors in cooperation with expert practitioners in the occupation.

F-10-3 Provide DVE-sponsored staff development activities designed to train teachers in the use of the competency lists, assessment instruments, and assessment procedures.

F-10-4 Award credit to transfer students (or others with previously learned skills) who can pass the final performance tests according to the state developed criteria.

F-10-5 Work cooperatively with other vocational-technical institutions in the local area to develop articulation and transfer agreements. In their local areas at least, students can be given appropriate credit for each of the occupational competencies achieved, no matter in what institution this took place.

BARRIER G-2

Traditional methods of funding do not provide funds needed for program modification, CBVE start-up, additional equipment and materials, or staff time for program development.

COMMENT

Traditional funding methods typically employ a "base" for both budgeting and for allocation. Personnel positions and recurring costs from the previous year are almost automatically included in the budget for the following year, usually without detailed scrutiny or justification. This is the base. Only new and increased funding requirements are subjected to detailed examination, scrutiny, justification, and prioritization. Although CBVE does not in itself impose a mandate for funding procedure change, its adaptive and flexible characteristics are certainly in harmony with more adaptive and flexible budgeting and allocation methods.

POSSIBLE SOLUTIONS

G-2-1 Adopt and use a budgeting and allocation system like "zero-base" where all funding requirements, not just new ones, must be scrutinized, justified and prioritized each year.

G-2-2 Rather than allocate funds to programs and organizational entities on a formula basis or exactly as reflected in the institution budget, adopt an institutional pooling and prioritization procedure for major categories of expense, such as:

- Instructional and institutional support equipment,
- Development of new or improvement of existing programs to include implementation of CBVE,
- Instructional and support personnel positions,
- Audio-visual equipment and material,
- Inservice activities,
- Instructional material for student use.

Use the funds that are available on the most urgent needs. Recognize changing and new needs as conditions and circumstances change. Refuse to recognize sacred cows.

G-2-3 Discontinue programs and support activities that are only marginally effective or productive, and divert funding for these programs and activities to those with higher priorities.

G-2-4 Exhaust all opportunities for special funding such as grants, projects, and student financial aid.

G-2-5 Exhaust all possible internal sources of revenue, such as is typically generated from cosmetology and food service programs.

G-2-6 Consider and treat revenue generated from certain programs such as cosmetology as institutional rather than as exclusively for the program from which generated. Use such revenue to supplement state and other funding for those institution needs with the highest current priority.

G-2-7 Avoid acquiring a high level of fixed costs, especially in in-instructional programs where enrollment tends to fluxuate greatly or in support activities with workloads very sensitive to student enrollment. Use part-time or temporary personnel to satisfy requirements of changing enrollment.

G-2-8 Seek and use all staff development dollars available (through TEC or other sources) to assist with program planning and development activities as well as staff professional development needs.

G-2-9 By using modularized instructional materials, combine small groups of students in related occupational training, using one instructor. By teaching two or more courses at one time, the instructor frees up salary dollars for use in program development activities.

BARRIER G-3

Conventional college registration procedures do not permit students to enter and complete programs with the flexibility possible with CBVE.

COMMENT

Solutions suggested for Barrier F-8 are relevant.

POSSIBLE SOLUTIONS

G-3-1 Do not specify high school graduation or equivalency as prerequisites for admission to the institution, or specify any other prerequisites unless they are clearly required for success in the instruction program. (See solutions listed for Barrier H-1.)

G-3-2 Operate vocational programs as certificate programs rather than associate degree programs and use flexible open-entry/open-exit enrollment for these programs.

BARRIER G-4

Methods for assessing fees conflict with the time students spend in a program, the resources used, and tasks mastered prior to instruction.

COMMENT

Solutions listed for F-8 are relevant.

POSSIBLE SOLUTIONS

G-4-1 Determine "standard hours" for each instructional program; i.e., the number of hours needed by the "average" or typical student to complete the program. Determine student tuition and fees either on the basis of actual costs or on established tuition rates and standard hours.

G-4-2 Charge students tuition and fees only for time periods actually spent in instruction. If payment periods are used, such as monthly or quarterly, pro-rate amounts charged for initial and final periods according to time spent in instruction and refund amounts due students.

G-4-3 Divide total amount due for the entire program, based on standard hours, into periodic payments increments or periods such as months or quarters. Students pay for the initial period at time of registration. Send students bills for subsequent periods as payment therefore becomes due. Continue to bill students as long as they remain in the program notwithstanding standard hours.

G-4-4 Determine tuition costs by applying established tuition rates to standard hours for the instructional program. Determine fees, however, for labs, shops, and material and supplies consumed by students individually on an actual cost basis. This solution would employ the idea that wasteful students pay for their waste.

G-4-5 Charge fees for the number of competencies to be learned through a contract procedure. Students "buy" competencies on an individual or cluster basis.

BARRIER G-5

Open-entry/open-exit programs do not match institutional methods for determining funding based on student FTE formulas.

COMMENT

There are considerable differences of opinion as to the effects of FTE formulas on CBVE. The MGT Report points out that with open-entry/open-exit programs that have a waiting list of students, the average daily attendance (ADA) does not fluctuate. There is a wave effect of FTE enrollment in traditional fixed-entry programs. CBVE does not "over enroll" for FTE counts as do traditional programs, thus there can be a lower FTE generation from CBVE. However, total costs per program completer should be lower with CBVE.

POSSIBLE SOLUTIONS

G-5-1 At the state level, determine FTE by periodic actual student counts or average daily attendance rather than by the number of students registering at the beginning of each semester/quin.

G-5-2 Administrators planning to implement CBVE should visit successfully operating programs such as Ridge and St. Petersburg Area Vocational Centers to discuss FTE's and the dollars they generate in fully operational CBVE programs.

G-5-3 Work with other postsecondary institutions to encourage the Department of Education to change its procedures for collecting funding data so as not to penalize CBVE programs. Investigate the possibility of reporting ADA as an alternative to FTE reporting periods.

BARRIER H-1

Community colleges tend to be oriented toward academic programs. It is difficult to get institutional support and resources for CBVE program improvement.

POSSIBLE SOLUTIONS

H-1-1 Do not force a compartmentalization of vocational programs into a series of courses that otherwise have no useful purpose, indeed are detrimental to effective delivery of competency-based vocational education.

H-1-2 Do not design and compartmentalize vocational programs by semesters/quins or other time-based dimensions. Rather, use job-derived competencies, appropriately sequenced, to compose vocational programs. The time to complete is estimated by standard time needed by an "average" student and measured by the actual time each student uses.

H-1-3 Do not impose academic prerequisites for admission to the institution. Establish only those program prerequisites that are objectively valid with respect to their relationship to successful completion and which are curable in any student deemed deficient.

H-1-4 Do not force vocational programs into the "credit" mold of the academic curriculum, if to do so would impose rigid and dysfunctional constraints which normally is the case. Rather, consider all vocational programs as "non-credit" or derive a new expression, such as "vocational credit", based on competencies.

H-1-5 Consider success for vocational programs to be measured and determined by virtue of the number of program completers who are employed in relevant occupations rather than the percent of students who transfer to four-year or advanced educational institutions.

H-1-6 Do not force vocational students or programs into the Associate Degree, AAS Degree or degree certificate mold unless it is actually appropriate for that particular occupation.

H-1-7 Operate vocational programs of community and junior colleges as separate, stand-alone entities rather than as ill-fitting appendages to an otherwise academic institution. Permit vocational programs to operate independent from academic programs under the college umbrella but with separate policies and procedures for admission, registration, instructional program design, program completion, student services and records, determination and assessment of student fees, allocation of student financial aid, allocation of operating funds to vocational programs and criteria for employment of faculty.

H-1-8 Work to acquaint and "sell" the academic administrators on the concepts and practices of CBVE. Vocational administrators must plan thoroughly and be fully committed so as to explain and justify conversion to CBVE.

H-1-9 Establish the competency-based mode of instruction throughout the institution, in academic as well as vocational areas. Apply the same principles of competency identification, mastery learning, and performance assessment. Begin the academic transition process with the more obvious subject matter fields; e.g., mathematics, physical sciences, engineering technology. Expand to other areas gradually but progressively.

BARRIER H-2

Institutions expect students in occupational and technical programs to complete background courses as requirements and resist building mastery of cognitive information into the occupational competencies of the program.

COMMENT

This barrier probably pertains less to area vocational centers and more to community colleges, being derived from the academic influence.

POSSIBLE SOLUTIONS

H-2-1 Except for preparatory or remedial instruction, include learning of cognitive skills such as reading, writing, speaking, computation and behavior modification as inherent enabling skills for appropriate competencies of each competency-based vocational program. Do not teach these skills in courses or classes separate from program instruction.

H-2-2 For pre-program preparatory or remedial instruction in cognitive skills, providing instruction separate from the program(such as in the LRC) is acceptable if students are provided program-related examples and problems using appropriate occupational terminology.

H-2-3 Implement a CBVE model that utilizes:

- Didactic approach and criterion-referenced tests for complex and overlapping knowledge base (e.g., health occupations programs, electronics),
- Practice and skill development of program competencies,
- Actual performance tests of occupational skills.

H-2-4 Analyze each occupational competency in the training program and determine what cognitive knowledge is required in order to achieve that competency. Build that cognitive knowledge into learning experiences for the competency so that cognitive knowledge builds on what has been previously learned. If this is done, there is no need for separate or introductory theory courses.

BARRIER H-3

Policy and governing boards of institutions that do not understand CBVE are not willing to modify policies and procedures to better meet the needs of CBVE.

COMMENT

Generally, governing boards operate with limited and filtered information. Official information is provided by administration. Informally, many sources supply information with varying accuracy to individual members as well as to the board itself. The most prolific of these sources consist of disgruntled or unhappy parents, employees, and students, most of whom have, or think they have, a grievance. If administration does not adequately inform its board about new initiatives, such as implementation of CBVE, the board will form an opinion about such matters from the information it acquires informally.

POSSIBLE SOLUTIONS

H-3-1 Administration must carefully and fully inform its governing board about CBVE in terms of what it is, what benefits are expected, what additional or new resources are required, how the institution plans to implement CBVE, and as implementation proceeds, what progress and problems are experienced.

BARRIER I-1

Teacher education programs do not adequately prepare vocational teachers for CBVE.

COMMENT

Vocational teacher education programs have a dual task. They must make sure their graduates or program completers are employable in conventional school programs (which are presently in the majority) and at the same time prepare prospective teachers for CBVE. Teacher education curricula should now be making a rapid transition from preparing for teaching in conventional programs to preparing for CBVE. Within the next few years that transition should be complete.

POSSIBLE SOLUTIONS

I-1-1 Teacher certification requirements for methods or special methods should include or be based upon the methods and strategies of CBVE rather than traditional expository teaching methods.

I-1-2 DVE could effect change toward teaching CBVE methods by rewarding teacher education programs that do prepare teachers for CBVE by:

- Granting awards for program start up,
- Providing technical assistance to develop necessary instructional materials, including modules and media.

I-1-3 Teacher education research has identified the skills that vocational teachers need in order to install and maintain CBVE programs. Performance-based instructional materials that deliver on these teaching competencies are now available and should be used in vocational teacher education programs. Thus, the vocational teacher in training can achieve the necessary skills for CBVE while personally experiencing the competency-based approach to teaching and learning.

I-1-4 The Florida Beginning Teacher Program and the Florida Performance Measurement System should be modified to help prepare beginning vocational teachers to operate effectively in the CBVE mode. This may involve additional instructional materials for beginning teachers, and a modified teacher performance evaluation instrument.

BARRIER I-2

Vocational teacher education programs do not use competency-based methods in their own programs.

COMMENT

Solutions suggested for Barrier I-1 are applicable to Barrier I-2 also.

POSSIBLE SOLUTIONS

I-2-1 Provide teacher educators with professional staff development opportunities to observe performance-based vocational teacher programs in the state and elsewhere.

I-2-2 Require that vocational teacher education programs use the performance-based approach in order to meet state accreditation and program-approval standards.

BARRIER I-3

Many inservice sessions, workshops, and conferences are not competency-based.

POSSIBLE SOLUTIONS

I-3-1 Require the competency-based approach be used as an objective in all DVE RFP's for staff development workshops, grants, or activities.

I-3-2 Notwithstanding the topic, state level sponsored and institutional sponsored inservice for vocational faculty and staff should incorporate the competency-based mode for design and delivery in order to further illustrate and demonstrate the process.

BARRIER K-1

Accrediting and licensure agencies have requirements based on time, such as clock hours, that do not fit well with CBVE programs.

POSSIBLE SOLUTIONS

K-1-1 Professionals at each level, state, county, institution and program, must continue to work with and ultimately convince accrediting agencies that CBVE programs should be recognized on the basis of standard hour computation. There should be no penalties for individual students who complete programs in less or more than standard time.

K-1-2 Lists of program essentials specified by certain program accrediting bodies, particularly in the health occupations, can be satisfied by effective expression and presentation of the competencies that make up the instructional program.

K-1-3 Administrators and vocational teachers must continue to convince accrediting bodies or agencies that CBVE programs should be recognized on the basis of competency mastery with approved criteria as a basis for completion rather than time.

K-1-4 The DVE can use its good offices and influence to work with accrediting and licensure agencies so their regulations are not in conflict with CBVE. This can be done with much more effectiveness and efficiency than if each individual institution attempts to solve its own problems with these agencies.

BARRIER K-2

The VA and similar agencies that provide student support have requirements that do not fit CBVE programs.

COMMENT

Solutions K-1-1 and K-1-4 are relevant for this barrier. However, remember that many requirements such as clock hours or credits are rooted in federal or state law and cannot be changed simply by administrative action.

POSSIBLE SOLUTIONS

K-2-1 Work with agencies and the VA on an individual basis to explain and work out problems with reporting requirements.

K-2-2 Conduct the institution's instructional program according to CBVE principles. Report student data to the outside agencies in a form that satisfies their requirements.

BARRIER L-2

DVE policies communicate mixed messages to local institutions about DVE commitment and direction relative to CBVE. DVE personnel commitment appears to be mostly verbal without implementation or follow-through.

POSSIBLE SOLUTIONS

L-2-1 The DVE administrative council must ensure that policies and procedures are accurately communicated and carried out by all DVE personnel. DVE policies and practices related to CBVE must be carried out consistently by all occupational program areas in DVE and throughout all regions. DVE program personnel who cannot support the Division's commitment should be given other less crucial responsibilities.

L-2-2 Some DVE personnel may require additional training and experience in CBVE. This can be accomplished in a systematic way with the appropriate performance-based vocational education modules or administrator training modules on the subject. Other methods of training for CBVE include a university course or a specially organized workshop. Observation experience at fully functioning CBVE programs in the state should be obligatory.

BARRIER L-3

There is a poor coordination among various bureaus and sections within DVE, weakening the CBVE effort.

POSSIBLE SOLUTIONS

L-3-1 Develop a communication system within DVE so that researchers know what implementers need and implementers know what research efforts are being made. Funded projects, personnel training activities and curriculum development activities should all be coordinated so that they contribute to the CBVE effort. Bureaus must be supportive and not working as totally independent units.

L-3-2 Organize a decisionmaking body and a decisionmaking process for CBVE. The various DVE bureaus and offices can be represented. Outside expert advice should be used to guide the work of the decisionmaking body. The broad policies so generated should be made public and should be binding for all DVE units.

BARRIER L-4

There is lack of coordination between DVE and local education agencies (LEA's).

POSSIBLE SOLUTIONS

L-4-1 Establish and maintain a state CBVE assistance center. Assign to this center, as a separate organizational entity responsible to DVE, the single, unitary mission of assisting and coordinating implementation and operation of CBVE by:

- Providing information and inservice training for institutions and through institutions for faculty and staff about CBVE, its definition, its demands and benefits, its methodology for implementation, and its successes in Florida,
- Using processes participative with business and industry in Florida and with faculty to formulate and validate:
  - Standardized competency lists or charts for established and planned vocational programs,
  - Standardized assessment instruments related to each competency or cluster of competencies for each vocational program,
- Periodically verifying the validity of the competencies for each vocational program and assessment instruments and making up-dates when necessary,
- Maintaining (with FEIS and VIMAS assistance) an up-to-date index of instructional materials available nationwide for each established vocational program and providing information about such materials to institutions and faculty,
- Visiting and providing assistance, on its own initiative or upon request, to institutions and/or instructional programs that are implementing, preparing to implement, or operating CBVE, assistance to be provided either directly from center resources or by contract with state teacher training institutions,
- Establishing and maintaining networks of faculty by program areas, statewide for use in disseminating information and in maintaining participation and feedback to enhance the operation of CBVE,
- Serving as state level point of contact for CBVE and related matters and endeavors such as V-TECS, CAREER MAPs, etc.

BARRIER L-5

The state provides little financial support for networks to facilitate development of CBVE.

COMMENT

Solutions suggested for L-4-1 and L-4-2 are applicable for Barrier L-5 also.

BARRIER L-6

There is a lack of a comprehensive State CBVE implementation plan and methodology.

POSSIBLE SOLUTIONS

L-6-1 Move CBVE implementation planning ahead at a more rapid pace by allowing a small number (1-3) CBVE knowledgeable and CBVE experienced persons to develop the comprehensive plan rather than a large, slowly moving committee.

L-6-2 To expedite the development and installation of a comprehensive plan, construct it initially as a tentative working document used to get CBVE coordination activities under way. Continue to revise, refine, and update the plan annually. In this way the comprehensive plan can be in place in a matter of months rather than years, even though in its first phase it may be less than perfect.

L-6-3 At state level, develop, formulate, publish and maintain a standardized and prescriptive methodology for both implementation and operation of CBVE focused both at the program level and the institutional level. Central to such a methodology must be:

- A comprehensive, unambiguous definition of CBVE covering and differentiating the basic or essential CBVE characteristics and those that are related and supporting (for example, see the working definition of CBVE formulated as part of this project),
- A comprehensive set of criteria for determining the status of CBVE implementation for both instructional programs and institutions.

BARRIER L-7

There are few, if any, meaningful, State-provided incentives (financial and non-financial) to institutions, administrators and faculty to implement and maintain CBVE.

POSSIBLE SOLUTIONS

L-7-1 DVE could provide to LEA's:

- Lists of rigorously identified competencies and criterion-referenced assessment instruments as a basis for curriculum development at the local level,
- Technical assistance through CBVE center personnel (as described in solutions suggested for Barrier L-4),
- Provide specially earmarked dollars for needed A/V equipment and supplies,
- Special staff development activities for administrators and faculty.

L-7-2 Establish and provide incentives for institutions and programs for successful implementation and operation of CBVE. Some possible incentives include:

- Requiring demonstrated competency in CBVE for certification in vocational education,
- Providing recognition in professional media and at professional meetings for institutions and persons that have achieved success in or contributed innovations to CBVE methodology,
- Requiring demonstrated competency in CBVE in selection criteria for outstanding vocational teachers,
- Giving preference for selection of vocational administrators and faculty to represent Florida at national professional meetings for those persons who have achieved noteworthy success with CBVE,
- Considering needs for implementing CBVE for special or augmentation funding for institutions and/or instructional programs.
- Establishing state-level criteria for selection and employment of senior vocational administrators both at institutions and in staff positions specifying an understanding and acceptance of CBVE and its concepts.

BARRIER L-8

New State teacher evaluation programs and criteria foster traditional expository teaching and ignore or hinder continued development and implementation of CBVE.

POSSIBLE SOLUTIONS

L-8-1 Continue efforts to modify the Florida Performance Measurement System and the Florida Teacher's Examination so as to reflect CBVE methods and special vocational needs.

L-8-2 Establish a uniform criteria for evaluation of vocational teachers using CBVE for inclusion in teacher evaluation programs.

L-8-3 Develop and provide teachers special instructional materials that will help them become proficient in CBVE instruction as they work to successfully complete the Florida Beginning Teacher program and the Meritorious Teacher Program.

BARRIER L-9

There is a lack of uniform criteria and methodology for implementation of CBVE among administrative personnel as well as an absence of a uniform definition of CBVE separating it from traditional academic education in methodology of instruction.

POSSIBLE SOLUTIONS

L-9-1 Determination to fully implement and maintain CBVE for all public postsecondary, vocational education must be unequivocally established, or re-established, as a state goal and endorsed by the entirety of DVE.

L-9-2 The CBVE goal must be considered by DVE as a major goal and other goals and objectives must be related to and support implementation of CBVE.

L-9-3 DVE must exercise strong and decisive leadership by concentrating its available resources on achievement of the CBVE goal.

L-9-4 Both DVE and DOE support for the CBVE goal must be obtained and maintained because many matters affecting CBVE at community colleges are outside DVE jurisdiction.

L-9-5 Consider a modernization and reorganization of DVE to enhance achievement of the CBVE goal. A portion of the current structure that provides program directors and program consultants appears to have become dysfunctional. The political base for each program consultant can be maintained only if the consultant can demonstrate to that program's constituency that they have received their fair share or more than their fair share. When limited resources are allocated on the basis of political power or compromise or equal shares rather than on the basis of objectively verified needs, dysfunctionality and sub-optimization result. From evidence gathered through this project, the present structure of program directors and consultants has done little to help CBVE implementation; indeed, it probably has hindered implementation significantly.

L-9-6 Formulate and announce a state CBVE planning process. Such a process starts with the CBVE goal and from this goal develops a series of time-based objectives each contributory to achievement of the goal. To support the planning process an information system is needed to report periodically implementation status and problems for programs, institutions, counties and for the state as a whole. But planning is not a one-time endeavor which is completed when "The" plan is prepared and promptly filed. The planning process should also be participative in terms of the institutions and other entities that comprise the host of professionals affected by CBVE.

BARRIER M-1

The data base of reserach and evaluation on CBVE is too small and there is too little evidence of the success of CBVE in Florida.

POSSIBLE SOLUTIONS

M-1-1 The state should sponsor studies to locate, synthesize, and analyze existing research results from the professional literature related to the effects of competency-based instruction. The analysis/synthesis should be published and widely disseminated.

M-1-2 The state, in cooperation with university research programs, should undertake basic process/product research on performance-based vocational instruction. This will require very careful research design done by qualified educational researchers. Research studies should be conducted on a long term basis, and quick results should not be expected.

BARRIER M-2

Local agencies require demonstration of positive results before they move in the direction of CBVE.

COMMENT

Solutions M-1-1 and M-1-2 are applicable for this barrier also.

POSSIBLE SOLUTIONS

M-2-1 Additional CBVE demonstration sites should be established in several geographic areas of the state. A wide range of occupational programs should be observable as model CBVE programs. Especially urgent is the need for at least one CBVE demonstration site in a community college. The CBVE model programs must be carefully selected and supervised at state level to ensure that they exhibit the principles and best practices of CBVE.

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APPENDIX A

Project Advisory Committee

Committee Member Listing

Agenda - January 13, 1984 meeting (Orlando)

Agenda - April 6, 1984 meeting (Orlando)

Agenda - August 8, 1984 meeting (Orlando)

PROJECT ADVISORY COMMITTEE

Mr. Freddie T. DeVore
Aviation Program Instructor
Lively Area Vo-Tech Center
500 North Appleyard Drive
Tallahassee, FL 32304

Mr. William R. Jefferies
Assistant Superintendent - Vocational,
Technical and Adult Education Services
1915 S. Floral Avenue
P. O. Box 391
Bartow, FL 33830

Dr. Paul Kretzchmar
Assistant Principal
Miami Lakes Technical Center
5780 N.W. 158 Street
Miami Lakes, FL 33014

Mrs. Teresa Lane
Assistant Director,
Curriculum and Instruction
St. Petersburg Vo-Tech Institute
901 34th Street South
St. Petersburg, FL 33711

Dr. Mignon S. Tucker, Dean
School of Applied Sciences
Daytona Beach Community College
P. O. Box 1111
Daytona Beach, FL 32015

CBVE BARRIERS PROJECT ADVISORY COMMITTEE
AGENDA

January 13, 1984
Sheraton Orlando International Airport Inn
Orlando, Florida

10:00	INTRODUCTIONS	*Steve Sorg*
	Travel	
	Contracts	
10:30	PROJECT ORIENTATION	
	RFP & Proposal	*Glen Fardig*
	CBVE Working Definition	*Glen Fardig*
	Project Plan & Activities	*Dick Koch*
	Advisory Committee Role	*Steve Sorg*
	CBVE Exemplary Sites	*Steve Sorg*
12:00	- LUNCH -	
1:00	FORCE FIELD ANALYSIS	*Bob Lange*
2:30	CBVE OPERATIONAL DEFINITION	*Bob Lange*
3:00	- ADJOURN -	

CBVE BARRIERS PROJECT ADVISORY COMMITTEE

AGENDA

April 6, 1984
UCF South Orlando Campus
Orlando, Florida

9:00	WELCOME	*Glen Fardig*
9:05	PROJECT PROGRESS	*Dick Koch*
9:25	CBVE WORKING DEFINITION	*Glen Fardig*
9:40	TRAVEL REIMBURSEMENTS	*Steve Sorg*
9:50	-BREAK-	
10:15	LIST OF PERCEIVED BARRIERS Process of Barrier Statement Development Barrier Statement Elaboration	*Steve Sorg*
11:30	-LUNCH-	
1:00	Continue Barrier Statement Elaboration	*Steve Sorg*
2:15	-BREAK-	
2:30	UPCOMING PROJECT ACTIVITIES Concerns-Based Adoption Model Case Studies	*Glen Fardig* *Dick Koch*
3:00	-ADJOURN-	

CBVE BARRIERS PROJECT ADVISORY COMMITTEE

AGENDA

August 8, 1984

Howard Johnson's Florida Center Hotel

Orlando, Florida

9:00	WELCOME	*Steve Sorg*
9:15	PROJECT STATUS REPORT	*Steve Sorg*
9:25	CONFIRMATION OF BARRIERS	*Dick Koch*
9:45	BREAK	
10:00	SOLUTIONS AND STRATEGIES FOR OVERCOMING BARRIERS	*Bob Lange*
10:45	CONCLUSIONS AND RECOMMENDATIONS	*Glen Fardig*
11:45	NEXT STEPS	*Steve Sorg*
12:00	ADJOURN	

APPENDIX B

Postsecondary Schools by Regions

REGION I

* ** Chipola Junior College
Marianna, FL 32446

** Gulf Coast Community College
5230 W. Highway 98
Panama City, FL 32401

** Thomas P. Haney Area Voc-Tech Center
3016 Highway 77
Panama City, FL 32405

** Lively Area Voc-Tech Center
500 N. Appleyard Drive
Tallahassee, FL 32304

* North Florida Junior College
1000 Turner Davis Drive
Madison, FL 32340

* ** Oklaoosa-Walton Junior College
100 College Blvd.
Niceville, FL 32578

** Pensacola Junior College
1000 College Blvd.
Pensacola, FL 32504

** George Stone Area Vocational Center
Route 10, Box 530
Pensacola, FL 32506

** Suwanee-Hamilton Area Voc-Tech & Adult Center
415 S.W. Pinewood Drive
Live Oak, FL 32060

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* Community Colleges that are Designated Area Vocational Education Schools

** Institutions used as sample from which force field analysis participants and site visits were selected

Region I (cont.)

Tallahassee Community College
444 Appleyard Drive
Tallahassee, FL 32304

Taylor County Area Voc-Tech Center
3233 S. U.S. Highway 19
Perry, FL 32347

** Washington-Holmes Area Voc-Tech Center
209 Hoyt Street
Chipley, FL 32428

REGION II

** Bradford-Union Area Voc-Tech Center
609 N. Orange Street
Starke, FL 32091

* Central Florida Community College
** State Road 200 W.
Box 1388
Ocala, FL 32678

* Daytona Beach Community College
** P.O. Box 1111
Daytona Beach, FL 32015

* Florida Junior College at Jacksonville
** 501 W. State Street
Jacksonville, FL 32202

* Lake City Community College
Lake City, FL 32055

** St. Augustine Technical Center
Collins Avenue at Del Monte Drive
St. Augustine, FL 32084

St. Johns River Community College
5001 St. Johns Avenue
Palatka, FL 32077

Region II (Cont.)

* Santa Fe Community College
** 3000 N.W. 83rd Street
P.O. Box 1530
Gainesville, FL 32602

** Withlachoochee Area Voc-Tech Center
1607 W. Main Street
Inverness, FL 32650

REGION III

* Brevard Community College
** 1519 Clearlake Road
Cocoa, FL 32922

* Indian River Community College
** 3209 Virginia Avenue
Ft. Pierce, FL 33450

** Lake County Area Voc-Tech Center
2001 Kurt Street
Eustis, FL 32726

Lake-Sumter Community College
5900 U.S. 441 S.
Leesburg, FL 32748

** Mid-Florida Technical Institute
2900 W. Oak Ridge Road
Orlando, FL 32809

Orlando Voc-Tech Center
301 W. Amelia Street
Orlando, FL 32801

Polk Community College
999 Avenue H., N.E.
Winter Haven, FL 33880

Polk Voc-Tech Center
P.O. Box 720
Eaton Park, FL 33840

** Ridge Voc-Tech Center
7700 State Road 544 N.
Winter Haven, FL 33880

Region III (cont.)

* Seminole Community College
** Sanford, FL 32771

Valencia Community College
P.O. Box 3028
Orlando, FL 32802

REGION IV

Charlotte County Voc-Tech Center
1468 Toledo Blade Blvd.
Port Charlotte, FL 33952

Collier County Voc-Tech Center
3702 Estey Avenue
Naples, FL 33942

** Edison Community College
College Parkway
Fort Meyers, FL 33907

** David G. Erwin Area Voc-Tech Center
2001 E. Hillsborough Avenue
Tampa, FL 33610

Hillsborough Community College
P.O. Box 22127
Tampa, FL 33622

Lee County Area Voc-Tech Center
3800 Michigan Avenue
Fort Meyers, FL 33901

Manatee Area Voc-Tech Center
5603 34th Street, West
Bradenton, FL 33507

Manatee Junior College
5804 - 26th Street, West
P.O. Box 1849
Bradenton, FL 33506

Region IV (cont.)

* Pasco-Hernando Community College
** 2401 State Highway 41 North
Dade City, FL 33525

** Pinellas Voc-Tech Institute
6100 154th Avenue, North
Clearwater, FL 33520

St. Petersburg Junior College
P.O. Box 13489
St. Petersburg, FL 33733

** St. Petersburg Voc-Tech Institute
901 34th Street, South
St. Petersburg, FL 33712

** Sarasota County Voc-Tech Center
4748 Beneva Road
Sarasota, FL 33583

* South Florida Junior College
** 600 W. College Drive
Avon Park, FL 33825

Tampa Bay Area Voc-Tech Center
6410 Orient Road
Tampa, FL 33610

REGION V

** Atlantic Voc-Tech Center
4700 Coconut Creek Parkway
Coconut Creek, FL 33066

** Broward Community College
225 E. Las Olas Blvd.
Ft. Lauderdale, FL 33301

* Florida Keys Community College
** Key West, FL 33040

** Lindsey Hopkins Tech Ed. Center
1410 N.E. Second Avenue
Miami, FL 33132

** Miami-Dade Community College
11011 S.W. 104th Street
Miami, FL 33176

Region V (cont.)

Miami Lakes Tech Ed. Center
5780 N.W. 158th Street
Miami Lakes, FL 33014

** Robert Morgan Voc-Tech Institute
18180 S.W. 122nd Avenue
Miami, FL 33177

North Tech Education Center
7071 Garden Road
Riviera Beach, FL 33404

Palm Beach Community College
4200 Congress Avenue
Lake Worth, FL 33461

** Sheridan Voc-Tech Center
5400 Sheridan Street
Hollywood, FL 33024

South Tech Education Center
1300 S.W. 30th Avenue
Boynton Beach, FL 33435

** West Technical Education Center
2625 State Road 715
Belle Glade, FL 33430

APPENDIX C

Survey of Regional Program Administrators

Sample letter to Regional Program Administrators

Sample of survey form for R.P.A. to indicate extent of CBVE implementation at different institutions within that region (only for Region I)

December 5, 1983

Mr. Robert Caldwell
Regional Program Administrator
Region I, DVE
Park Twenty West 1236A
Tallahassee, FL 32301

Dear Mr. Caldwell:

The Division of Vocational Education has funded a research project to identify and define barriers currently being experienced by postsecondary institutions in Florida in implementing competency-based vocational education (CBVE) for their vocational programs. The project is being conducted by a research group at the University of Central Florida.

The initial identification of barriers to successful implementation of CBVE will be derived from a series of Force Field conferences composed of representatives of selected postsecondary institutions throughout the State. We plan to arrange each conference with people from similar institutions with respect to CBVE implementation experience. Accordingly, we urgently need an objective assessment of the extent to which each institution has successfully and fully implemented CBVE for its vocational programs.

The purpose of this letter is to request your assistance in making such an assessment. We seek your opinion of the extent of successful CBVE implementation for selected postsecondary institutions within your regional area. In reaching your opinion, you may of course seek information from members of your staff as you consider necessary and appropriate.

Enclosed is a form we have prepared listing those postsecondary institutions in your regional area for which we need an assessment. The enclosed form also defines six characteristics of full implementation of CBVE. We ask you to examine the six characteristics and using your knowledge of the institution (and the knowledge of your staff as desired) render an opinion about the extent (from zero to 100%) that the institution has successfully and fully implemented CBVE in terms of all the characteristics taken collectively.

A member of our project staff, Richard P. Koch, will telephone your office during the week of December 13, 1983 to obtain and discuss your assessment for each institution.

Thank you for your assistance.

Sincerely,

Dr. Steven E. Sorg
Project Director

SES/cel

Enclosure

Additional Letters To:

Mr. F.D. McCormick
Region II, RPA
Professional Office Center
901 Northwest 8th Ave, C-5
Gainesville, 32601

Mr. Harlen L. McCauslin
Region III, RPA
Zora Neale Hurston State Building
400 W. Robinson St. Suite 602
Orlando, 32801

Mr. Richard L. Gavin
Region IV, RPA
Pan American Bank Building
715 E. Bird Street Suite 309
Tampa, 33604

Mrs. Alice W. Tingler
Region V, RPA
Department of Education
8150 State Road 808
Boca Raton, 33434

ASSESSMENT OF POSTSECONDARY INSTITUTIONS BY EXTENT OF IMPLEMENTATION OF COMPETENCY-BASED VOCATIONAL EDUCATION (CBVE)

CHARACTERISTICS OF FULL IMPLEMENTATION OF CBVE:

1. All vocational instructional programs of the institution provide for individual student achievement of competencies as opposed to group-paced instruction.

2. All occupational competencies students are to achieve are clearly expressed and observable.

3. Student assessment of competencies is based primarily on observed performance.

4. All program competecies are based on occupational analyses that have been recently verified by business or industry representatives.

5. All instructional materials are keyed to specific program competencies and allow for individual learning.

6. The institution's record keeping system documents individual student achievement of program competencies.

INSTRUCTIONS: Please indicate for each of the institutions in your regional area listed below, your assessment of the extent to which the institution has implemented competency-based vocational education.

Using the scale indicated from zero to 100%, please place an "X" at the point on the scale reflecting in your opinion the extent, or percent, to which the institution has actually implemented CBVE.

INSTITUTION	EXTENT OF IMPLEMENTATION OF CBVE Minimal Implementation 0% — Some Implementation 25% — Moderate Implementation 50% — Substantial Implementation 75% — 100%

ASSESSMENT OF POSTSECONDARY INSTITUTIONS BY EXTENT OF IMPLEMENTATION OF CBVE (Continued)

INSTITUTION	EXTENT OF IMPLEMENTATION OF CBVE Minimal Implementation 0% — Some Implementation 25% — Moderate Implementation 50% — Substantial Implementation 75% — 100%

COMMENTS:

APPENDIX D

Status of Implementation of CBVE

Letter to institutions

Survey Form

January 10, 1984

Dear

The purpose of this letter is to request your assistance in providing some information about the status of implemention of competency-based vocational education (CBVE) for your occupational programs. This information will be used in connection with work requested by the Division of Vocational Education. Enclosed is a form containing a series of questions which we would like you to answer. In addition to the questions, the enclosed form also contains definitions we would like you to use in answering the questions.

Please do not return the enclosed form. A member of our project staff will telephone your office during the week of January 16, 1984 to obtain your responses to the questions on the enclosed form as well as to discuss the project should you so desire.

The purpose of the research project is to identify and define barriers currently being experienced by postsecondary institutions in Florida in implementing competency-based vocational education for their vocational instructional programs. The project is being conducted by a research group at the University of Central Florida.

The initial identification of barriers to successful implementation of CBVE will be derived from a series of Force Field conferences composed of representatives of selected postsecondary institutions throughout the State. We plan to arrange each con-

ference with people from similar institutions with respect to CBVE implementation experience. Accordingly, we urgently need information about the extent to which your institution has implemented CBVE for its vocational instructional programs.

Thank you for your assistance.

Sincerely,

Steven E. Sorg
Project Director

SES/cel

Enclosure:
Form: Information Concerning Status of Implementation of Competency-Based Vocational Education (CBVE)

INFORMATION CONCERNING STATUS OF IMPLEMENTATION OF

COMPETENCY-BASED VOCATIONAL EDUCATION (CBVE)

INSTITUTION: _____

INSTRUCTIONS:

NOTE: Characteristics of CBVE. For the purpose of this project, the following characteristics are used to define CBVE:

1. Vocational instructional programs provide for individual student achievement of competencies, as opposed to group-paced instruction.

2. The occupational competencies students are to achieve are clearly expressed, known to students, and observable.

3. Assessment of competencies is based primarily on observed student performance of the occupational skill involved.

4. Program competencies are based on occupational analyses that have been recently verified by representative incumbent workers of business and industry.

5. Instructional materials are keyed to specific program competencies and allow for individual learning.

6. The record-keeping system documents individual student achievement of program competencies.

QUESTION 1: How many occupational instructional programs does your institution curently offer ?

ANSWER: _____.

NOTE: Status of CBVE Implementation. The remaining questions ask about the extent to which CBVE has been implemented for your occupational programs. The terms: "substantial," "moderate," "minimal," and "not-at-all" are used to express four relative degrees of implementation. Consider a scale for CBVE implementation ranging from zero to one hundred percent with the four degree expressions defined as follows:

Substantial:	70% to 100%
Moderate:	31% to 69%
Minimal:	1% to 30%
Not-at-all:	0%

QUESTION 2: How many of the occcupational programs of the total given for Question 1 do you consider to fall within the substantial range of CBVE implementation status ?

ANSWER: _____.

QUESTION 3: What are some examples of your occupational programs that you consider to be in the status of substantial CBVE implementation ?

ANSWER: _____

_____

_____

_____

_____

QUESTION 4: How many of the occupational programs of the total given for Question 1 do you consider to fall within the moderate range of CBVE implementation ?

ANSWER: _____.

QUESTION 5: What are some examples of occupational programs that you consider to be in the status of moderate CBVE implementation ?

ANSWER: _____

_____

_____

_____

_____

_____

_____

_____

_____

QUESTION 6: How many of the occupational programs of the total given for Question 1 do you consider to fall within the minimal range of CBVE implementation ?

ANSWER: _____.

QUESTION 7: What are some examples of your occupational programs that you consider to be in the status of minimal CBVE implementation ?

ANSWER: _____

_____

_____

_____

_____

QUESTION 8: How many of the occupational programs of the total given for Question 1 do you consider to be in the Not-at-All status of CBVE implementation ?

ANSWER: _____.

QUESTION 9: What are some examples of your occupational programs that you consider to be in the Not-at-All status of CBVE implementation ?

ANSWER: _____

_____

_____

_____

_____

This completes the information we are seeking. A member of our staff will contact you shortly by telephone to obtain your responses to these questions. Thank you for your assistance in this project.

APPENDIX E

Chart of CBVE Implementation for Instructional Programs

APPENDIX E

EXTENT OF CBVE IMPLEMENTATION FOR
INSTRUCTIONAL PROGRAMS

PROGRAM/ TYPE INSTITUTION	NO. TIMES PROGRAM CITED	SUBS	MODERATE	MINIMUM	NOT AT ALL	% IMPLEMENT.
PARTS MARKETING	2	2	0	0	0	85.0
Area Center	2	2	0	0	0	
C/C	---	---	---	---	---	
ELECTRICAL WIRING	6	4	2	0	0	73.3
Area Center	3	3	0	0	0	85.0
C/C	3	1	2	0	0	61.6
COSMETOLOGY	14	10	3	1	0	72.5
Area Center	11	8	2	1	0	72.3
C/C	3	2	1	0	0	73.3
CHILD CARE	7	4	3	0	0	70.0
Area Center	4	3	1	0	0	
C/C	3	1	2	0	0	
HVAC	14	9	4	1	0	73.0
Area Center	9	7	2	0	0	77.2
C/C	5	2	2	1	0	57.0
GRAPHICS/PRINTING	10	6	3	1	0	67.5
Area Center	5	2	2	1	0	57.0
C/C	5	4	1	0	0	78.0
PLUMBING	4	2	2	0	0	67.5
Area Center	3	1	2	0	0	
C/C	1	1	0	0	0	
ELECTRONICS	25	14	9	1	1	66.2
Area Center	13	9	4	0	0	74.2
C/C	12	5	5	1	1	57.5
HEAVY EQUIP MECHANIC	6	3	2	1	0	61.6
Area Center	6	3	2	1	0	
C/C	---	---	---	---	---	

PROGRAM/ TYPE INSTITUTION	NO. TIMES PROGRAM CITED	SUBS	MODERATE	MINIMUM	NOT AT ALL	% IMPLEMENT.
HEAVY EQUIP OPER.	3	2	0	1	0	61.7
Area Center	3	2	0	1	0	
C/C	---	---	---	---	---	
DIESEL MECHANIC	8	4	3	0	1	61.2
Area Center	5	3	2	0	0	
C/C	3	1	1	0	1	
MASONRY	7	2	5	0	0	60.0
Area Center	6	2	4	0	0	
C/C	1	0	1	0	0	
CLOTHING PRODUCTION	4	2	1	1	0	58.7
Area Center	3	2	0	1	0	
C/C	1	0	1	0	0	
CLERICAL OCCUPATIONS	15	6	7	1	1	58.3
Area Center	11	6	4	0	1	64.5
C/C	4	0	3	1	0	41.2
ALLIED HEALTH (NEC)	7	4	1	1	1	57.8
Area Center	3	1	1	0	1	45.0
C/C	4	3	0	1	0	67.5
SMALL ENGINE REPAIR	7	4	1	1	1	57.8
Area Center	3	2	1	0	0	73.3
C/C	4	2	0	1	1	46.2
MARINE MECHANICS	5	3	0	2	0	57.0
Area Center	4	3	0	1	0	
C/C	1	0	0	1	0	
NURSERY OPERATIONS	6	2	3	1	0	55.8
Area Center	6	2	3	1	0	
C/C	---	---	---	---	---	
WELDING	13	4	7	2	0	55.3
Area Center	8	1	6	1	0	50.0
C/C	5	3	1	1	0	64.0

PROGRAM/ TYPE INSTITUTION	NO. TIMES PROGRAM CITED	SUBS	MODERATE	MINIMUM	NOT AT ALL	% IMPLEMENT.
DENTAL ASSISTING	7	2	4	1	0	55.0
Area Center	2	1	0	1	0	
C/C	5	1	4	0	0	
FOOD SERVICE	10	4	3	3	0	53.5
Area Center	9	4	2	3	0	53.8
C/C	1	0	1	0	0	50.0
SECRETARIAL OCCUP.	18	8	5	2	3	53.3
Area Center	5	2	2	1	0	57.0
C/C	13	6	3	1	3	51.9
DRAFTING	13	4	6	3	0	52.7
Area Center	9	3	3	3	0	50.0
C/C	4	1	3	0	0	58.7
BUSINESS EDUC.	23	12	1	8	2	51.7
Area Center	10	10	0	0	0	85.0
C/C	13	2	1	8	2	26.2
RESPIRATORY THERAPY	4	1	2	1	0	50.0
Area Center	1	0	0	1	0	
C/C	3	1	2	0	0	
HOTEL/MOTEL FRONT D.	2	1	0	1	0	50.0
Area Center	2	1	0	1	0	
C/C	---	---	---	---	---	
RADIOLOGY TECH	3	0	3	0	0	50.0
Area Center	---	---	---	---	---	
C/C	3	0	3	0	0	
SHEET METAL	2	1	0	1	0	50.0
Area Center	1	0	0	1	0	
C/C	1	1	0	0	0	
AVIATION	4	0	4	0	0	50.0
Area Center	---	---	---	---	---	
C/C	4	0	4	0	0	

PROGRAM/ TYPE INSTITUTION	NO. TIMES PROGRAM CITED	SUBS	MODERATE	MINIMUM	NOT AT ALL	% IMPLEMENT.
RADIO/TV REPAIR	2	1	0	1	0	50.0
Area Center	2	1	0	1	0	
C/C	---	---	---	---	---	
PHOTOGRAPHY	3	1	1	1	0	50.0
Area Center	1	0	1	0	0	
C/C	2	1	0	1	0	
CARPENTRY	11	3	5	2	1	48.6
Area Center	8	3	3	2	0	54.4
C/C	3	0	2	0	1	33.3
MACHINE SHOP	9	3	3	2	1	48.3
Area Center	6	2	2	2	0	50.0
C/C	3	1	1	0	1	45.0
CORRECTIONS	7	2	3	1	1	47.8
Area Center	3	1	1	0	1	
C/C	4	1	2	1	0	
EMERGENCY MED TECH	6	1	4	0	1	47.5
Area Center	1	0	1	0	0	
C/C	5	1	3	0	1	
UNIQUES *	30	8	12	7	3	46.2
Area Center	12	4	5	3	0	52.9
C/C	18	4	7	4	3	41.7
DATA PROCESSING	9	3	2	4	0	46.1
Area Center	5	2	1	2	0	
C/C	4	1	1	2	0	
NURSING	25	8	8	4	5	45.6
Area Center	11	2	2	3	4	28.6
C/C	14	6	6	1	1	58.9
AUTOMOTIVE MECHANIC	19	4	9	5	1	45.5
Area Center	13	4	5	4	0	50.0
C/C	6	0	4	1	1	35.8

PROGRAM/ TYPE INSTITUTION	NO. TIMES PROGRAM CITED	SUBS	MODERATE	MINIMUM	NOT AT ALL	% IMPLEMENT.
MARKETING (GEN)	3	1	1	0	1	45.0
Area Center	1	1	0	0	0	
C/C	2	0	1	0	1	
ACCOUNTING	6	2	1	3	0	44.2
Area Center	3	2	1	0	0	73.3
C/C	3	0	0	3	0	15.0
AUTO BODY REPAIR & PAINTING	12	2	6	3	1	42.9
Area Center	8	2	4	2	0	50.0
C/C	4	0	2	1	1	28.7
TRAVEL AGENT	2	1	0	0	1	42.5
Area Center	1	0	0	0	1	
C/C	1	1	0	0	0	
LAW ENFORCEMENT	17	4	5	5	3	39.1
Area Center	7	1	2	3	1	32.8
C/C	10	3	3	2	2	43.5
SURGICAL TECH.	3	0	2	1	0	38.3
Area Center	2	0	1	1	0	
C/C	1	0	1	0	0	
UPHOLSTRY	5	1	1	3	0	36.0
Area Center	4	1	1	2	0	
C/C	1	0	0	1	0	
FIRE FIGHTING	9	1	4	2	2	35.0
Area Center	6	1	2	2	1	
C/C	3	0	2	0	1	
FASHION MARKETING	2	0	1	1	0	32.5
Area Center	1	0	1	0	0	
C/C	1	0	0	1	0	
BANKING SERVICES	6	1	2	0	3	30.8
Area Center	2	1	0	0	1	
C/C	4	0	2	0	2	

PROGRAM/ TYPE INSTITUTION	NO. TIMES PROGRAM CITED	SUBS	MODERATE	MINIMUM	NOT AT ALL	% IMPLEMENT.
ORNAMENTAL HORTICULTURE	4	0	2	1	1	28.7
Area Center	2	0	0	1	1	
C/C	2	0	2	0	0	
COMMERCIAL ART	3	0	1	2	0	26.7
Area Center	3	0	1	2	0	
C/C	---	---	---	---	---	
BUSINESS MACH REPAIR	3	0	1	2	0	26.7
Area Center	3	0	1	2	0	
C/C	---	---	---	---	---	
BUILDING CONSTRUCTION	3	0	1	1	1	21.7
Area Center	---	---	---	---	---	
C/C	3	0	1	1	1	
MED LAB TECH	4	0	1	1	2	16.3
Area Center	3	0	0	1	2	
C/C	1	0	1	0	0	

* NOTE: UNIQUES includes programs mentioned only by one institution. These were combined for tabulation purposes.

APPENDIX F

Force Field Analysis Conferences

Participant List February 10, 1984

Agenda for Feb. 10 Conference

Participant List February 17, 1984

Agenda for Feb. 17 Conference

Participant List March 2, 1984

Agenda for March 2 Conference

PARTICIPANTS - FORCE FIELD CONFERENCE
For Project: BARRIERS TO CBVE
South Campus, University of Central Florida, Orlando
Friday, February 10, 1984

Mr. Fred Baldwin, Instructor, Miami-Dade Community College

Mrs. Vernice Davis, Instructor, Washington-Holmes Area Center

Mr. William Succop, Administrator, Miami-Dade Community Center

Mrs. Jan Turner, Instructor, St. Petersburg Area Center

Mrs. Jill Van Weelden, Adminstrator, Central Florida Community College

Mr. John Wolfram, Instructor, Daytona-Beach Community College

Mr. Bob Lindner, Administrator, George Stone Area Center

Dr. Fred Young, Administrator, Central Florida Community College

Project Staff Members:

Dr. Steven F. Sorg, Project Director

Dr. Robert R. Lange

Dr. Glen E. Fardig

Mr. Richard P. Koch

CBVE BARRIERS FORCE FIELD ANALYSIS SESSION
AGENDA

February 10, 1984
South Orlando Campus, University of Central Florida
Orlando, Florida

9:00	INTRODUCTION Travel forms Introductions	Steve Sorg
9:30	PROJECT OVERVIEW	Dick Koch
9:45	WORKING DEFINITION OF CBVE	Glen Fardig
10:00	- BREAK -	
10:10	FORCE FIELD ANALYSIS PART I	Bob Lange
12:00	- LUNCH -	
1:15	FORCE FIELD ANALYSIS PART II	Bob Lange
2:15	RANKINGS FOR ADDITIONAL STUDY	Small Groups
3:00	SUMMARY AND ADJOURN	

PARTICIPANTS FOR FORCE FIELD CONFERENCE
Project: Barriers to CBVE
Friday, February 17, 1984
South Campus, University of Central Florida, Orlando

Constance Bobik, Brevard Community College, Cocoa

Lynn Carden, David G. Erwin Area Voc-Tech Center, Tampa

Clark Lieffers, Seminole Community College, Sanford

Marvin Merritt, Thomas P. Haney Area Voc-Tech Center, Panama City

Al Sively, Florida Keys Community College, Key West

Walter Wescott, Bradford-Union Area Voc-Tech Center, Starke

Staff:

Steven Sorg, Project Director

Bob Lange

Dick Koch

CBVE BARRIERS FORCE FIELD ANALYSIS SESSION
AGENDA

February 17, 1984
South Orlando Campus, University of Central Florida
Orlando, Florida

9:00	INTRODUCTION Travel forms Introductions	Steve Sorg
9:30	PROJECT OVERVIEW	Dick Koch
9:45	WORKING DEFINITION OF CBVE	Steve Sorg
10:00	- BREAK -	
10:10	FORCE FIELD ANALYSIS PART I	Bob Lange
12:00	- LUNCH -	
1:15	FORCE FIELD ANALYSIS PART II	Bob Lange
2:15	RANKINGS FOR ADDITIONAL STUDY	Small Groups
3:00	SUMMARY AND ADJOURN	

PARTICIPANTS FOR FORCE FIELD CONFERENCE
Project: Barriers to CBVE

Friday, March 2, 1984
South Campus, University of Central Florida, Orlando

Mr. Mack Blythe, Seminole Community College, Sanford

Dr. Ed. Bauer, Brevard Community College, Cocoa

Dr. Jack Fuller, Santa Fe Community College, Gainesville

Mr. Steve Harvey, Sarasota County Vocational-Technical Center, Sarasota

Mr. Bill McMillian, Suwannee-Hamilton Area Vocational-Technical and Adult Center, Live Oak

Mr. Joe Stephens, Mid-Florida Technical Institute, Orlando

Mr. Tom Winters, Lake County Area Vocational-Technical Center, Eustis

Staff:

Dr. Steven Sorg, Project Director

Dr. Glen Fardig

Dr. Robert Lange

Mr. Dick Koch

CBVE BARRIERS FORCE FIELD ANALYSIS SESSION
AGENDA

March 2, 1984
South Orlando Campus, University of Central Florida
Orlando, Florida

9:00	INTRODUCTION Travel forms Introductions	Steve Sorg
9:30	PROJECT OVERVIEW	Dick Koch
9:45	WORKING DEFINITION OF CBVE	Glen Fardig
10:00	- BREAK -	
10:10	FORCE FIELD ANALYSIS PART I	Bob Lange
12:00	- LUNCH -	
1:15	FORCE FIELD ANALYSIS PART II	Bob Lange
2:15	RANKINGS FOR ADDITIONAL STUDY	Small Groups
3:00	SUMMARY AND ADJOURN	

APPENDIX G

Questionnaire No. 1

BARRIERS TO IMPLEMENTATION OF COMPETENCY-BASED VOCATIONAL EDUCATION

QUESTIONNAIRE #1 - EXISTENCE OF BARRIERS

This is the first of two questionnaires that will be sent to you over the next several weeks. We greatly appreciate your willingness to participate in this survey as registered by the postcard you recently returned or by your name being furnished by your institution. The purpose of this questionnaire is to learn your opinion about the existence of a number of tentative barriers to the implementation of CBVE that have been suggested from several sources.

INSTRUCTIONS:

Please read each statement which describes a possible barrier. Then indicate your opinion concerning the existence of this barrier by placing a check in the appropriate column opposite the barrier statement. There are five choices given for each barrier statement. The wording for the five choices are somewhat abbreviated in the heading for each page. In their full form, these choices are as follows:

1. I have experienced the barrier personally, I know that it exists.

2. Although I have not experienced the barrier directly, I know people who have; therefore, I believe that it exists.

3. I don't know whether it exists or not.

4. I have not experienced the barrier myself and I have never heard of anyone that has, so I don't believe that it exists.

5. I know for a fact that the barrier does not exist.

Following the barrier statements, you will be asked whether you are aware of any barriers to the implementation of CBVE that we have not included in our list. If so, we ask you to write a statement describing that barrier.

Also, we would appreciate any comments you would like to make about any of the tentative barriers listed in this questionnaire. Please use the reverse side of this questionnaire for your comments and use the Letter/Number code for the barrier to identify it with your comment.

Thank you for your assistance. We will mail you Questionnaire #2 as soon as we receive all the responses for Questionnaire #1. Please return the completed questionnaire in the stamped, addressed envelope provided.

RESPONSE GROUP: _____

PLEASE TURN TO THE NEXT PAGE

RESPONSE GROUP: _____

BARRIER STATEMENTS:

Please respond to each Barrier Statement by placing a check in the column that best describes your opinion about the existence of the barrier.

	I KNOW THE BARRIER EXISTS: 1	I BELIEVE THE BARRIER EXISTS: 2	I DON'T KNOW WHETHER IT EXISTS OR NOT: 3	I DON'T BELIEVE THE BARRIER EXISTS: 4	I KNOW THE BARRIER DOES NOT EXIST: 5
BARRIERS GROUP A - Administrators:					
A-1 Administrators express a negative attitude about CBVE, fail to conceptually support its development and/or fail to demonstrate commitment to CBVE goals.					
A-2 Vocational educational administrators and others know little about CBVE, its essential elements and requirements.					
A-3 Administrators lack the skills needed to develop daily routines and management procedures for CBVE programs.					
A-4 Administrators are not willing or don't know how to provide the faculty inservice, special resources, and motivation needed to overcome faculty resistance to change.					
A-5 Administrators believe CBVE is more costly to start up and establish than conventional vocational education.					
BARRIERS GROUP B - Faculty:					
B-1 Faculty have a negative attitude toward CBVE and generally resist change. There are several parts:					
B-1-a CBVE is not perceived by faculty as an improvement over the existing model.					
B-1-b Faculty know little about CBVE, are frightened by it, don't like what they have heard about how it works in some schools, and fear it may result in the loss of their position.					
B-1-c Previous negative experiences of faculty stand in the way of CBVE implementation.					
B-1-d Faculty believe that students with weak basic skills cannot succeed in CBVE.					
B-1-e Faculty believe that CBVE will take away academic freedom and instructional creativity.					

RESPONSE GROUP: _____

BARRIER STATEMENTS:

Please respond to each Barrier Statement by placing a check in the column that best describes your opinion about the existence of the barrier.

	I KNOW THE BARRIER EXISTS: 1	I BELIEVE THE BARRIER EXISTS: 2	I DON'T KNOW WHETHER IT EXISTS OR NOT: 3	I DON'T BELIEVE THE BARRIER EXISTS: 4	I KNOW THE BARRIER DOES NOT EXIST: 5
B-1-f Faculty believe they will be spread too thin and there will be new demands on their time after CBVE is implemented.					
B-2 Faculty have insufficient knowledge about CBVE, are misinformed and have inappropriate ideas about it, and are not aware of opportunities to learn the skills needed to implement CBVE.					
B-3 Faculty are not provided the released time they need to develop and reorganize programs into a CBVE format.					
B-4 Faculty are made responsible for program development but lack the skills needed to organize and produce the required support materials.					
B-5 CBVE requires faculty be up-to-date in their fields, but schools provide very few opportunities for faculty to update their technical skills.					
B-6 Faculty believe that programs in which secondary-level students are combined in classes with postsecondary-level students are more difficult for CBVE implementation.					
B-7 Effective use of part-time faculty is particularly difficult with CBVE because of the extent of orientation and explanation required.					
BARRIERS GROUP C - Support Staff:					
C-1 Few schools and colleges have CBVE-trained curriculum and program development specialists to assist faculty members with program start-up and operational updates.					
C-2 Persons responsible for curricula change are not provided with appropriate authority and influence to make decisions and carry out plans.					
C-3 Faculty have little access to clerical help needed for CBVE development and start-up.					

RESPONSE GROUP: _____

BARRIER STATEMENTS:

Please respond to each Barrier Statement by placing a check in the column that best describes your opinion about the existence of the barrier.

	I KNOW THE BARRIER EXISTS: (1)	I BELIEVE THE BARRIER EXISTS: (2)	I DON'T KNOW WHETHER IT EXISTS OR NOT: (3)	I DON'T BELIEVE THE BARRIER EXISTS: (4)	I KNOW THE BARRIER DOES NOT EXIST: (5)
BARRIERS GROUP D - Students:					
D-1 CBVE requires students who are mature and self-directed and who can assume responsibility for their own learning of occupational skills.					
D-2 Students may require greater time to master the tasks required to complete a CBVE program.					
D-3 Students expect to complete vocational programs in a specified number of hours.					
BARRIERS GROUP E - Physical Resources:					
E-1 CBVE requires that training be supported with up-to-date and appropriate equipment. Schools find it dificult to obtain the equipment, keep it current, and maintain it in proper working condition.					
E-2 Physical facilities designed for conventional programs are often ill-suited for the multiple activities of CBVE.					
E-3 Schools have difficulty keeping facilities open and available when needed by individual students beyond normal hours of operation.					
E-4 Individualized CBVE programs require use of more audio-visual equipment and materials which are difficult to obtain and maintain.					
E-5 CBVE instructional programs require more printed materials and instructional supplies than conventional programs. Printing, storing and distributing learning guides and individualized learning materials require a great deal of resources.					
E-6 Schools have difficulty keeping CBVE curriculum materials current, especially in rapidly changing occupations.					

RESPONSE GROUP: _____

BARRIER STATEMENTS:

Please respond to each Barrier Statement by placing a check in the column that best describes your opinion about the existence of the barrier.

	I KNOW THE BARRIER EXISTS: (1)	I BELIEVE THE BARRIER EXISTS: (2)	I DON'T KNOW WHETHER IT EXISTS OR NOT: (3)	I DON'T BELIEVE THE BARRIER EXISTS: (4)	I KNOW THE BARRIER DOES NOT EXIST: (5)
BARRIERS GROUP F - Program Operation:					
F-1 It is difficult to develop satisfactory occupational task listings, and listings obtained from DVE or other sources may not be adequate.					
F-2 Competency-based materials lack depth and do not place enough emphasis on learning theory for highly technical programs.					
F-3 Curricula materials sent by the State are inadequate or too little, too late.					
F-4 CBVE designs or models for programs require too much testing and student progress documentation.					
F-5 CBVE program designs require faculty to spend inordinate amounts of time and effort in student record keeping and reporting.					
F-6 Individualization of instruction requires a reduction in student/teacher ratio because of facility limits and in order to meet safety requirements.					
F-7 CBVE does not well fit traditional grades or institutional grading procedures.					
F-8 It is difficult to get faculty and institutions to accept the demands of open-entry/open-exit.					
BARRIERS GROUP G - Institutional Procedures:					
G-1 The way individual shops and labs are organized makes it difficult to schedule students and facilities as needed in a CBVE environment.					
G-2 Traditional methods of funding do not provide funds needed for program modification, CBVE start-up, additional equipment and materials, or staff time for program development.					

RESPONSE GROUP: _____

BARRIER STATEMENTS:

Please respond to each Barrier Statement by placing a check in the column that best describes your opinion about the existence of the barrier.

	I KNOW THE BARRIER EXISTS: (1)	I BELIEVE THE BARRIER EXISTS: (2)	I DON'T KNOW WHETHER IT EXISTS OR NOT: (3)	I DON'T BELIEVE THE BARRIER EXISTS: (4)	I KNOW THE BARRIER DOES NOT EXIST: (5)
G-3 Conventional college registration procedures do not permit students to enter and complete programs with the flexibility possible with CBVE.					
G-4 Methods for assessing fees conflict with the time students spend in a program, the resources used, and tasks mastered prior to instruction.					
G-5 Open-entry/open-exit programs do not match institutional methods for determining funding based on student FTE formulas.					
BARRIERS GROUP H - Institutional Climate:					
H-1 Community colleges tend to be oriented toward academic programs. It is difficult to get institutional support and resources for CBVE program improvement.					
H-2 Institutions expect students in occupational and technical programs to complete background courses as requirements and resist building mastery of cognitive information into the occupational competencies of the program.					
H-3 Policy and governing boards of institutions that do not understand CBVE are not willing to modify policies and procedures to better meet the needs of CBVE.					
BARRIERS GROUP I - Teacher Training Programs:					
I-1 Teacher education programs do not adequately prepare vocational teachers for CBVE.					
I-2 Vocational teacher education programs do not use competency-based methods in their own programs.					
I-3 Many inservice sessions, workshops, and conferences are not competency-based.					

RESPONSE GROUP: _____

BARRIER STATEMENTS:

Please respond to each Barrier Statement by placing a check in the column that best describes your opinion about the existence of the barrier.

	I KNOW THE BARRIER EXISTS: (1)	I BELIEVE THE BARRIER EXISTS: (2)	I DON'T KNOW WHETHER IT EXISTS OR NOT: (3)	I DON'T BELIEVE THE BARRIER EXISTS: (4)	I KNOW THE BARRIER DOES NOT EXIST: (5)
BARRIERS GROUP J - Business/Industry Participation:					
J-1 Extensive participation in program planning causes conflict between advisory persons and faculty about program control.					
BARRIERS GROUP K - Outside Agencies:					
K-1 Accrediting and licensure agencies have requirements based on time, such as clock hours, that do not fit well with CBVE programs.					
K-2 The VA and similar agencies that provide student support have requirements that do not fit CBVE programs.					
BARRIERS GROUP L - State Education Agencies:					
L-1 The Division of Vocational Education (DVE) staff has not reached consensus about the concepts of CBVE.					
L-2 DVE policies communicate mixed messages to local institutions about DVE commitment and direction relative to CBVE. DVE personnel commitment appears to be mostly verbal without implementation or follow-through.					
L-3 There is poor coordination among various bureaus and sections within DVE, weakening the CBVE effort.					
L-4 There is a lack of coordination between DVE and local education agencies (LEA's).					
L-5 The state provides little financial support for networks to facilitate development of CBVE.					
L-6 There is a lack of a comprehensive State CBVE implementation plan and methodology.					
L-7 There are few, if any, meaningful, State-provided incentives (financial and non-financial) to institutions, administrators and faculty to implement and maintain CBVE.					

RESPONSE GROUP: _____

BARRIER STATEMENTS:

Please respond to each Barrier Statement by placing a check in the column that best describes your opinion about the existence of the barrier.

	I KNOW THE BARRIER EXISTS: (1)	I BELIEVE THE BARRIER EXISTS: (2)	I DON'T KNOW WHETHER IT EXISTS OR NOT: (3)	I DON'T BELIEVE THE BARRIER EXISTS: (4)	I KNOW THE BARRIER DOES NOT EXIST: (5)
L-8 New State teacher evaluation programs and criteria foster traditional expository teaching and ignore or hinder continued development and implementation of CBVE.					
BARRIERS GROUP M - Research and Evaluation Base:					
M-1 The data base of research and evaluation on CBVE is too small and there is too little evidence of the success of CBVE in Florida.					
M-2 Local agencies require demonstration of positive results before they move in the direction of CBVE.					

ADDITIONAL BARRIERS: Please write in below any additional barriers to implementation of CBVE that were not included above and that you believe exist. For any barrier that you identify, please also indicate in the appropriate column to the right your opinion about its existence.

Please continue using the next blank page. If you have comments about any of the barriers, the expressions used to describe them or the extent of their existence, please use the reverse of the pages in this questionnaire for your comments. Be sure to identify the Barrier Statement to which your comments pertain. When you have completed this questionnaire, please return it in the stamped, addressed envelope that was provided. Thank you again for your help.

RESPONSE GROUP: _____

BARRIER STATEMENTS:

Please respond to each Barrier Statement by placing a check in the column that best describes your opinion about the existence of the barrier.

	I KNOW THE BARRIER EXISTS:	I BELIEVE THE BARRIER EXISTS:	I DON'T KNOW WHETHER IT EXISTS OR NOT:	I DON'T BELIEVE THE BARRIER EXISTS:	I KNOW THE BARRIER DOES NOT EXIST:
	1	2	3	4	5

APPENDIX H

Questionnaire No. 2

QUESTIONNAIRE #2 - INFLUENCE OF BARRIERS

Here is the second and final questionnaire concerning barriers to implementation of Competency-Based Vocational Education (CBVE). We sincerely appreciate your assistance and participation in this project.

INSTRUCTIONS:

Questionnaire #1 was intended to obtain your opinion about the existence of a number of barriers to the implementation of CBVE. We have used some of the information acquired from the responses to Questionnaire #1 in preparing this questionnaire. Questionnaire #2 is intended to obtain your opinion about the relative influence, importance or strength of each barrier in terms of the extent to which CBVE implementation would be enhanced if the barrier were removed.

We recognize that in responding to Questionnaire #1, you may have expressed an opinion doubting the existence of one or more barriers. Your opinions will be fully reflected in our tabulation of the responses. However, notwithstanding your responses to Questionnaire #1, please assume for this questionnaire that all barrriers listed do exist.

Please read each barrier statement as you did for Questionnaire #1. Then, indicate your opinion concerning the amount of influence that might be realized in implementation of CBVE if the barrier were removed. Use the columns on the right hand side of each page to indicate the amount of influence as either "NONE" or a numerical value of 1 to 5 on a scale from "MINIMUM" to "MAXIMUM."

From the responses to Questionnaire #1, we learned of several other barriers in addition to those listed in the questionnaire. For these "new" barriers we need your opinion about their existence as well as your opinion about their relative influence. Accordingly, these "new" barriers are listed on the last two pages on this questionnaire, one page in the format for your opinion as to their existence and the other page in the format for your opinion as to their influence.

Again we would appreciate any comments you would care to make about any aspect of any barrier. Please use the reverse side of any page of this questionnaire for your comments and use the Letter/Number code for the barrier to identify it with your comments.

Thank you again for your help in this project. Please return the completed questionnaire in the stamped, addressed envelope provided.

RESPONSE GROUP: ____

Assuming that all barriers do exist, how much influence would removal of the barriers listed below have on implementation of CBVE ? (Indicate your opinion for each barrier by placing an "X" in the appropriate column to the right)	AMOUNT OF INFLUENCE NONE MINIMUM ⟷ MAXIMUM					
	0	1	2	3	4	5
BARRIERS GROUP A - Administrators:						
A-1 Administrators express a negative attitude about CBVE, fail to conceptually support its development and/or fail to demonstrate commitment to CBVE goals.						
A-2 Vocational educational administrators and others know little about CBVE, its essential elements and requirements.						
A-3 Administrators lack the skills needed to develop daily routines and management procedures for CBVE programs.						
A-4 Administrators are not willing or don't know how to provide the faculty inservice, special resources, and motivation needed to overcome faculty resistance to change.						
A-5 Administrators believe CBVE is more costly to start up and establish than conventional vocational education.						
BARRIERS GROUP B - Faculty:						
B-1 Faculty have a negative attitude toward CBVE and generally resist change. There are several parts:						
B-1-a CBVE is not perceived by faculty as an improvement over the existing model.						
B-1-b Faculty know little about CBVE, are frightened by it, don't like what they have heard about how it works in some schools, and fear it may result in the loss of their position.						
B-1-c Previous negative experiences of faculty stand in the way of CBVE implementation.						
B-1-d Faculty believe that students with weak basic skills cannot succeed in CBVE.						
B-1-e Faculty believe that CBVE will take away academic freedom and instructional creativity.						
B-1-f Faculty believe they will be spread too thin and there will be new demands on their time after CBVE is implemented.						

RESPONSE GROUP: ____

Assuming that all barriers do exist, how much influence would removal of the barriers listed below have on implementation of CBVE ? (Indicate your opinion for each barrier by placing an "X" in the appropriate column to the right)	AMOUNT OF INFLUENCE					
	NONE	MINIMUM ← → MAXIMUM				
	0	1	2	3	4	5
B-2 Faculty have insufficient knowledge about CBVE, are misinformed and have inappropriate ideas about it, and are not aware of opportunities to learn the skills needed to implement CBVE.						
B-3 Faculty are not provided the released time they need to develop and reorganize programs into a CBVE format.						
B-4 Faculty are made responsible for program development but lack the skills needed to organize and produce the required support materials.						
B-5 CBVE requires faculty be up-to-date in their fields, but schools provide very few opportunities for faculty to update their technical skills.						
B-6 Faculty believe that programs in which secondary-level students are combined in classes with postsecondary-level students are more difficult for CBVE implementation.						
B-7 Effective use of part-time faculty is particularly difficult with CBVE because of the extent of orientation and explanation required.						
BARRIERS GROUP C - Support Staff:						
C-1 Few schools and colleges have CBVE-trained curriculum and program development specialists to assist faculty members with program start-up and operational updates.						
C-2 Persons responsible for curricula change are not provided with appropriate authority and influence to make decisions and carry out plans.						
C-3 Faculty have little access to clerical help needed for CBVE development and start-up.						
BARRIERS GROUP D - Students:						
D-1 CBVE requires students who are mature and self-directed and who can assume responsibility for their own learning of occupational skills.						
D-2 Students may require greater time to master the tasks required to complete a CBVE program.						
D-3 Students expect to complete vocational programs in a specified number of hours.						

Assuming that all barriers do exist, how much influence would removal of the barriers listed below have on implementation of CBVE ? (Indicate your opinion for each barrier by placing an "X" in the appropriate column to the right)	AMOUNT OF INFLUENCE					
	NONE	MINIMUM ◄				► MAXIMUM
	0	1	2	3	4	5
BARRIERS GROUP E - Physical Resources:						
E-1 CBVE requires that training be supported with up-to-date and appropriate equipment. Schools find it dificult to obtain the equipment, keep it current, and maintain it in proper working condition.						
E-2 Physical facilities designed for conventional programs are often ill-suited for the multiple activities of CBVE.						
E-3 Schools have difficulty keeping facilities open and available when needed by individual students beyond normal hours of operation.						
E-4 Individualized CBVE programs require use of more audio-visual equipment and materials which are difficult to obtain and maintain.						
E-5 CBVE instructional programs require more printed materials and instructional supplies than conventional programs. Printing, storing and distributing learning guides and individualized learning materials require a great deal of resources.						
E-6 Schools have difficulty keeping CBVE curriculum materials current, especially in rapidly changing occupations.						
BARRIERS GROUP F - Program Operation:						
F-1 It is difficult to develop satisfactory occupational task listings, and listings obtained from DVE or other sources may not be adequate.						
F-2 Competency-based materials lack depth and do not place enough emphasis on learning theory for highly technical programs.						
F-3 Curricula materials sent by the State are inadequate or too little, too late.						
F-4 CBVE designs or models for programs require too much testing and student progress documentation.						
F-5 CBVE program designs require faculty to spend inordinate amounts of time and effort in student record keeping and reporting.						

Assuming that all barriers do exist, how much influence would removal of the barriers listed below have on implementation of CBVE ? (Indicate your opinion for each barrier by placing an "X" in the appropriate column to the right)	AMOUNT OF INFLUENCE					
	NONE	MINIMUM ←				→ MAXIMUM
	0	1	2	3	4	5
F-6 Individualization of instruction requires a reduction in student/teacher ratio because of facility limits and in order to meet safety requirements.						
F-7 CBVE does not well fit traditional grades or institutional grading procedures.						
F-8 It is difficult to get faculty and institutions to accept the demands of open-entry/open-exit.						
BARRIERS GROUP G - Institutional Procedures:						
G-1 The way individual shops and labs are organized makes it difficult to schedule students and facilities as needed in a CBVE environment.						
G-2 Traditional methods of funding do not provide funds needed for program modification, CBVE start-up, additional equipment and materials, or staff time for program development.						
G-3 Conventional college registration procedures do not permit students to enter and complete programs with the flexibility possible with CBVE.						
G-4 Methods for assessing fees conflict with the time students spend in a program, the resources used, and tasks mastered prior to instruction.						
G-5 Open-entry/open-exit programs do not match institutional methods for determining funding based on student FTE formulas.						
BARRIERS GROUP H - Institutional Climate:						
H-1 Community colleges tend to be oriented toward academic programs. It is difficult to get institutional support and resources for CBVE program improvement.						
H-2 Institutions expect students in occupational and technical programs to complete background courses as requirements and resist building mastery of cognitive information into the occupational competencies of the program.						
H-3 Policy and governing boards of institutions that do not understand CBVE are not willing to modify policies and procedures to better meet the needs of CBVE.						

Assuming that all barriers do exist, how much influence would removal of the barriers listed below have on implementation of CBVE ? (Indicate your opinion for each barrier by placing an "X" in the appropriate column to the right)	AMOUNT OF INFLUENCE					
	NONE	MINIMUM ← → MAXIMUM				
	0	1	2	3	4	5
BARRIERS GROUP I - Teacher Training Programs:						
I-1 Teacher education programs do not adequately prepare vocational teachers for CBVE.						
I-2 Vocational teacher education programs do not use competency-based methods in their own programs.						
I-3 Many inservice sessions, workshops, and conferences are not competency-based.						
BARRIERS GROUP J - Business/Industry Participation:						
J-1 Extensive participation in program planning causes conflict between advisory persons and faculty about program control.						
BARRIERS GROUP K - Outside Agencies:						
K-1 Accrediting and licensure agencies have requirements based on time, such as clock hours, that do not fit well with CBVE programs.						
K-2 The VA and similar agencies that provide student support have requirements that do not fit CBVE programs.						
BARRIERS GROUP L - State Education Agencies:						
L-1 The Division of Vocational Education (DVE) staff has not reached consensus about the concepts of CBVE.						
L-2 DVE policies communicate mixed messages to local institutions about DVE commitment and direction relative to CBVE. DVE personnel commitment appears to be mostly verbal without implementation or follow-through.						
L-3 There is poor coordination among various bureaus and sections within DVE, weakening the CBVE effort.						
L-4 There is a lack of coordination between DVE and local education agencies (LEA's).						
L-5 The state provides little financial support for networks to facilitate development of CBVE.						
L-6 There is a lack of a comprehensive State CBVE implementation plan and methodology.						

Assuming that all barriers do exist, how much influence would removal of the barriers listed below have on implementation of CBVE ? (Indicate your opinion for each barrier by placing an "X" in the appropriate column to the right)	AMOUNT OF INFLUENCE					
	NONE	MINIMUM ◄——►				MAXIMUM
	0	1	2	3	4	5
L-7 There are few, if any, meaningful, State-provided incentives (financial and non-financial) to institutions, administrators and faculty to implement and maintain CBVE.						
L-8 New State teacher evaluation programs and criteria foster traditional expository teaching and ignore or hinder continued development and implementation of CBVE.						
BARRIERS GROUP M - Research and Evaluation Base:						
M-1 The data base of research and evaluation on CBVE is too small and there is too little evidence of the success of CBVE in Florida.						
M-2 Local agencies require demonstration of positive results before they move in the direction of CBVE.						
COMMENTS:						

PLEASE TURN THE PAGE FOR THREE NEW BARRIERS ADDED BASED ON THE RESPONSES TO QUESTIONNAIRE #1.

Thank you for your help.

ADDED BARRIER STATEMENTS:

Please respond to each Barrier Statement by placing a check in the column that best describes your opinion about the existence of the barrier.

	I KNOW THE BARRIER EXISTS: 1	I BELIEVE THE BARRIER EXISTS: 2	I DON'T KNOW WHETHER IT EXISTS OR NOT: 3	I DON'T BELIEVE THE BARRIER EXISTS: 4	I KNOW THE BARRIER DOES NOT EXIST: 5
F-9 It is difficult to schedule and use limited clinical facilities in health programs under CBVE					
F-10 Program competencies are not standardized among State vocational schools. Thus, students who transfer have difficulty in completing programs and may have to repeat segments.					
L-9 There is a lack of uniform criteria and methodology for implementation of CBVE among administrative personnel as well as an absence of a uniform definition of CBVE separating it from traditional academic education in methodology of instruction.					

Assuming that all barriers do exist, how much influence would removal of the barriers listed below have on implementation of CBVE ? (Indicate your opinion for each barrier by placing an "X" in the appropriate column to the right)	AMOUNT OF INFLUENCE: NONE 0	MINIMUM ◄► MAXIMUM 1	2	3	4	5
F-9 It is difficult to schedule and use limited clinical facilities in health programs under CBVE.						
F-10 Program competencies are not standardized among State vocational schools. Thus, students who transfer have difficulty in completing programs and may have to repeat segments.						
L-9 There is a lack of uniform criteria and methodology for implementation of CBVE among administrative personnel as well as an absence of a uniform definition of CBVE separating it from traditional academic education in methodology of instruction.						

APPENDIX I

Final Barriers Statements and Validation

VALIDATION OF BARRIERS

BARRIERS	STRENGTH OF PERCEIVED EXISTENCE	STRENGTH OF PERCEIVED INFLUENCE	CONCLUSION
BARRIERS GROUP A - Administrators:			
A-1 Administrators express a negative attitude about CBVE, fail to conceptually support its development and/or fail to demonstrate commitment to CBVE goals.	Weak	Substantial	Validated
A-2 Vocational educational administrators and others know little about CBVE, its essential elements and requirements.	Weak	Strong	Validated
A-3 Administrators lack the skills needed to develop daily routines and management procedures for CBVE programs.	Weak	Moderate	Validated
A-4 Administrators are not willing or don't know how to provide the faculty inservice, special resources, and motivation needed to overcome faculty resistance to change.	Weak	Substantial	Validated
A-5 Administrators believe CBVE is more costly to start up and establish than conventional vocational education.	Moderate	Moderate	Validated
BARRIERS GROUP B - Faculty:			
B-1 Faculty have a negative attitude toward CBVE and generally resist change. There are several parts:	Strong	Substantial	Validated
B-1-a CBVE is not perceived by faculty as an improvement over the existing model.	Strong	Substantial	Validated

BARRIERS	STRENGTH OF PERCEIVED EXISTENCE	STRENGTH OF PERCEIVED INFLUENCE	CONCLUSION
B-1-b Faculty know little about CBVE, are frightened by it, don't like what they have heard about how it works in some schools, and fear it may result in the loss of their position.	Weak	Weak	Not Validated
B-1-c Previous negative experiences of faculty stand in the way of CBVE implementation.	Weak	Weak	Not Validated
B-1-d Faculty believe that students with weak basic skills cannot succeed in CBVE.	Moderate	Moderate	Not Validated
B-1-e Faculty believe that CBVE will take away academic freedom and instructional creativity.	Weak	Weak	Not Validated
B-1-f Faculty believe they will be spread too thin and there will be new demands on their time after CBVE is implemented.	Moderate	Strong	Validated
B-2 Faculty have insufficient knowledge about CBVE, are misinformed and have inappropriate ideas about it, and are not aware of opportunities to learn the skills needed to implement CBVE.	Strong	Strong	Validated
B-3 Faculty are not provided the released time they need to develop and reorganize programs into a CBVE format.	Substantial	Substantial	Validated
B-4 Faculty are made responsible for program development but lack the skills needed to organize and produce the required support materials.	Strong	Substantial	Validated

BARRIERS	STRENGTH OF PERCEIVED EXISTENCE	STRENGTH OF PERCEIVED INFLUENCE	CONCLUSION
B-5 CBVE requires faculty be up-to-date in their fields, but schools provide very few opportunities for faculty to update their technical skills.	Strong	Sub-stantial	Validated
B-6 Faculty believe that programs in which secondary-level students are combined in classes with post-secondary-level students are more difficult for CBVE implementation.	Weak	Weak	Not Validated
B-7 Effective use of part-time faculty is particularly difficult with CBVE because of the extent of orientation and explanation required.	Weak	Moderate	Not Validated
BARRIERS GROUP C - Support Staff:			
C-1 Few schools and colleges have CBVE-trained curriculum and program development specialists to assist faculty members with program start-up and operational updates.	Sub-stantial	Sub-stantial	Validated
C-2 Persons responsible for curricula change are not provided with appropriate authority and influence to make decisions and carry out plans.	Moderate	Moderate	Validated
C-3 Faculty have little access to clerical help needed for CBVE development and start-up.	Strong	Strong	Validated

BARRIERS	STRENGTH OF PERCEIVED EXISTENCE	STRENGTH OF PERCEIVED INFLUENCE	CONCLUSION
BARRIERS GROUP D - Students:			
D-1 CBVE requires students who are mature and self-directed and who can assume responsibility for their own learning of occupational skills.	Moderate	Weak	Not Validated
D-2 Students may require greater time to master the tasks required to complete a CBVE program.	Moderate	Weak	Not Validated
D-3 Students expect to complete vocational programs in a specified number of hours.	Strong	Weak	Validated
BARRIERS GROUP E - Physical Resources			
E-1 CBVE requires that training be supported with up-to-date and appropriate equipment. Schools find it difficult to obtain the equipment, keep it current, and maintain it in proper working condition.	Substantial	Substantial	Validated
E-2 Physical facilities designed for conventional programs are often ill-suited for the multiple activities of CBVE.	Substantial	Strong	Validated
E-3 Schools have difficulty keeping facilities open and available when needed by individual students beyond normal hours of operation.	Substantial	Moderate	Validated

BARRIERS	STRENGTH OF PERCEIVED EXISTENCE	STRENGTH OF PERCEIVED INFLUENCE	CONCLUSION
E-4 Individualized CBVE programs require use of more audiovisual equipment and materials which are difficult to obtain and maintain.	Strong	Strong	Validated
E-5 CBVE instructional programs require more printed materials and instructional supplies than conventional programs. Printing, storing and distributing learning guides and individualized learning materials require a great deal of resources.	Substantial	Substantial	Validated
E-6 Schools have difficulty keeping CBVE curriculum materials current, especially in rapidly changing occupations.	Substantial	Strong	Validated
<u>BARRIERS GROUP F - Program Operation</u>			
F-1 It is difficult to develop satisfactory occupational tasks listings, and listings obtained from DVE or other sources may not be adequate.	Weak	Weak	Not Validated
F-2 Competency-based materials lack depth and do not place enough emphasis on learning theory for highly technical programs.	Weak	Weak	Not Validated
F-3 Curricula materials sent by the State are inadequate or too little, too late.	Strong	Moderate	Validated
F-4 CBVE designs or models for programs require too much testing and student progress documentation.	Weak	Weak	Not Validated

BARRIERS	STRENGTH OF PERCEIVED EXISTENCE	STRENGTH OF PERCEIVED INFLUENCE	CONCLUSION
F-5 CBVE program designs require faculty to spend inordinate amounts of time and effort in student record keeping and reporting.	Moderate	Moderate	Validated
F-6 Individualization of instruction requires a reduction in student/teacher ratio because of facility limits and in order to meet safety requirements.	Weak	Moderate	Not Validated
F-7 CBVE does not well fit traditional grades or institutional grading procedures.	Moderate	Moderate	Validated
F-8 It is difficult to get faculty and institutions to accept the demands of open-entry/open-exit.	Substantial	Strong	Validated
F-9 It is difficult to schedule and use limited clinical facilities in health programs under CBVE.	Moderate	Moderate	Validated
F-10 Program competencies are not standardized among State vocational schools. Thus, students who transfer have difficulty in completing programs and may have to repeat segments.	Substantial	Strong	Validated
BARRIERS GROUP G - Institutional Procedures:			
G-1 The way individual shops and labs are organized makes it difficult to schedule students and facilities as needed in a CBVE environment.	Moderate	Weak	Not Validated

BARRIERS	STRENGTH OF PERCEIVED EXISTENCE	STRENGTH OF PERCEIVED INFLUENCE	CONCLUSION
G-2 Traditional methods of funding do not provide funds needed for program modification, CBVE start-up, additional equipment and materials, or staff time for program development.	Substantial	Substantial	Validated
G-3 Conventional college registration procedures do not permit students to enter and complete programs with the flexibility possible with CBVE.	Substantial	Strong	Validated
G-4 Methods for assessing fees conflict with the time students spend in a program, the resources used, and tasks mastered prior to instruction.	Moderate	Moderate	Validated
G-5 Open-entry/open-exit programs do not match institutional methods for determining funding based on student FTE formulas.	Strong	Strong	Validated
BARRIERS GROUP H - Institutional Climate:			
H-1 Community colleges tend to be oriented toward academic programs. It is difficult to get institutional support and resources for CBVE program improvement.	Strong	Strong	Validated
H-2 Institutions expect students in occupational and technical programs to complete background courses as requirements and resit building mastery of cognitive information into the occupational competencies of the program.	Moderate	Weak	Validated

BARRIERS	STRENGTH OF PERCEIVED EXISTENCE	STRENGTH OF PERCEIVED INFLUENCE	CONCLUSION
H-3 Policy and governing boards of institutions that do not understand CBVE are not willing to modify policies and procedures to better meet the needs of CBVE.	Moderate	Strong	Validated
BARRIERS GROUP I - Teacher Training Programs:			
I-1 Teacher education programs do not adequately prepare vocational teachers for CBVE.	Strong	Substantial	Validated
I-2 Vocational teacher education programs do not use competency-based methods in their own programs.	Strong	Substantial	Validated
I-3 Many inservice sessions, workshops, and conferences are not competency-based.	Substantial	Substantial	Validated
BARRIERS GROUP J - Business/ Industry Participation:			
J-1 Extensive participation in program planning causes conflict between advisory persons and faculty about program control.	Weak	Weak	Not Validated
BARRIERS GROUP K - Outside Agencies:			
K-1 Accrediting and licensure agencies have requirements based on time, such as clock hours, that do not fit well with CBVE programs.	Substantial	Strong	Validated
K-2 The VA and similar agencies that provide student support have requirements that do not fit CBVE programs.	Substantial	Strong	Validated

BARRIERS	STRENGTH OF PERCEIVED EXISTENCE	STRENGTH OF PERCEIVED INFLUENCE	CONCLUSION
BARRIERS GROUP L - State Education Agencies:			
L-1 The Division of Vocational Education (DVE) staff has not reached consensus about the concepts of CBVE.	Weak	Weak	Not Validated
L-2 DVE policies communicate mixed messages to local institutions about DVE commitment and direction relative to CBVE. DVE personnel commitment appears to be mostly verbal withou implementation or follow-through.	Moderate	Moderate	Validated
L-3 There is poor coordination among various bureaus and sections within DVE, weaking the CBVE effort.	Moderate	Moderate	Validated
L-4 There is a lack of coordination between DVE and local education agencies (LEA's).	Moderate	Weak	Validated
L-5 The state provides little financial support for networks to facilitate development of CBVE.	Strong	Strong	Validated
L-6 There is a lack of a comprehensive State CBVE implementation plan and methodology.	Moderate	Strong	Validated
L-7 There are few, if any, meaningful, State-provided incentives (financial and non-financial) to institutions, administrators and faculty to implement and maintain CBVE.	Substantial	Substantial	Validated

BARRIERS	STRENGTH OF PERCEIVED EXISTENCE	STRENGTH OF PERCEIVED INFLUENCE	CONCLUSION
L-8 New State teacher evaluation programs and criteria foster traditional expository teaching and ignore or hinder continued development and implementation of CBVE.	Strong	Substantial	Validated
L-9 There is a lack of uniform criteria and methodology for implementation of CBVE among administrative personnel as well as an absence of a uniform definition of CBVE separating it from traditional academic education in methodology of instruction.	Substantial	Strong	Validated
BARRIERS GROUP M - Research and Evaluation Base:			
M-1 The date base of research and evaluation on CBVE is too small and there is too little evidence of the success of CBVE in Florida.	Moderate	Weak	Validated
M-2 Local agencies require demonstration of positive results before they move in the direction of CBVE.	Moderate	Weak	Validated

APPENDIX J

Comments and Suggested Additional Barriers

from Questionnaire Respondents

COMMENTS AND SUGGESTED ADDITIONAL BARRIERS

FROM QUESTIONNAIRE RESPONDENTS

Identification Code

First Letter: B = Suggested additional barrier
C = Comment

Second Letter: Source
A - DVE main office personnel
B - DVE regional personnel
C - District VocEd directors
D - Area center administrators
E - Area center faculty
F - Community college administrators
G - Community college faculty

Third symbol: Barrier number ( )

From Questionnaire No. 1: Existence of Barriers

C-A (M-1) I have yet to see significant data or series of data to support that CBVE systems or methods are more effective.

B-A (M-1) Teacher resistance to change from traditional teaching to CBVE.

C-A (M-2) Not a barrier just good judgement.

C-A (I-2) True but not barrier.

B-A (I-2) Not enought return for massive funding required.

B-A (I-2) Most teachers are not sophisticated enough for this delivery system.

B-A (I-2) No results of student success of "typical" competency-based programs as compared with traditional is available.

B-A (I-2) CBVE programs I am familiar with are unbelievable watered down.

B-A (I-2) Many administrators and teachers will never accept CBVE regardless of the mandate.

B-A (I-2) CBVE largely loses the value of an experienced, skillful, interacting teacher.

B-A (I-2) CBVE has as its most enthusiastic advocates, the least experienced, most minimally qualified state, university and local "vocational" personnel.

C-B (B-1-3) Some believe that it makes them into paper graders only.

C-B (B-4) Not lack of skill but lack of time.

C-B (B-7) And coordination of the programs.

C-B (E-3) They shouldn't but do... it's the nature of the "system."

C-B (F-3) In many cases this is true (or can't get the materials updated as needed).

C-B (M-2) Positive demonstration is absolutely essential.

B-B (M-2) Faculty believe materials are not developed to assist with implementing the curriculum at the course level.

C-C (F-7) Inflexibility in scheduling makes total CBVE almost impossible at the district level.

B-C (F-7) I don't believe it can be done without some sort of grant to get started and from time to time to maintain it.

B-C (F-7) Large numbers of students must have regimented, traditional instruction to succeed.

B-C (F-7) I believe project work on live projects is best.

B-C (F-7) In every vocational class we have, there are a few who could succeed and do well with CBVE. These would also do well with conventional instruction methods or project work.

B-C (F-7) Our experience is that if a class is CBVE, you must have either two instructors or have an assistant to the instructor.

B-C (F-7) Any teacher or anyone resists change.

B-C (F-7) The DVE has not maintained any method/training for a length of time; i.e. V-TECH -- all kinds of programs -- always chasing their own tail. May be it is leg. Not DVE's fault.

C-D (F-7) Until the state changes funding procedures and/or governance of post-secondary vocational centers, CBVE advocates will continue to experience barriers. A unified curriculum delivery system is essential for vocational education to be effective in the economic development of Florida.

C-D (F-7) It is my feeling that CBVE is hindered in an atmosphere where programs are broken piecemeal into courses that require re-registration at the end of semesters, etc. If a person desires training as an appliance repair person, they should be able to go the program route without having to take a set of courses making up the total program. Community colleges need to get out of vocational training not requiring an associate degree.

B-D (F-7) People tend to confuse CBVE with learning guides and feel using learning guides is the only way to have CBVE.

C-D (A-1) Vocational administrators are in general committed to CBVE. Barriers exist in academic administrators given school or district level responsibilities for vocational education.

C-D (L-1) Never discussed - don't see them.

C-D (I-2) True but not a barrier.

C-D (I-3) True but not a barrier.

C-D (B-1-a)(b) Very true statements and barriers but these can be overcome over time.

C-D (B-3)(B-4)(C-1) Institutions have no chance of becoming CBVE if a single person(s) are not designated to be solely responsible for program development and implementation.

C-D (C-3) Clerical support is essential.

C-D (Group L) The state as a whole has provided little or no helpful effort to the local level. I have seen countless dollars spent by the state department in various sorted "attempts" when funds were desperately needed locally.

C-D (I-1)(2)(3) Hit the nail on the head.

C-D (A-2) A two-pronged item. "Others" means whom? Others in general don't really understand it. VocEd administrators do.

B-D (A-2) We can't afford faculty that is sharp enough to pull together CBVE. We're lucky to be able to replace a staff person with a qualified applicant. Money is the key to it all. Research is clear.

B-D (A-2) Too much time and attention are given to assessing barriers and obstacles. CBVE is proven and should be mandated by SDE for postsecondary centers.

C-D (A-2) My priorities:
1-Teachers are not trained.
2-Administrators are not committed.
3-It will require more work from teachers -- they resist.

B-D (A-2) Continued reduction in the vocational training cost factors have made it impossible to implement CBVE and is forcing programs already in it to drop it.

B-D (A-2) The biggest barrier we face is the imposition or required implementation of new fees, rules, regulations, etc. on very short notice -- it is impossible.

B-D (A-2) The local school board here resist CBVE more than anyone involved.

B-D (A-2) The new $200 per 900 hours tuition fee is a real financial blow to CBVE (with no waivers).

B-D (A-2) Some programs require experience in a hospital and nursing home in addition to classroom theory. It is not possible to send students one or two at a time to a clinical agency. Also programs share clinical facilities and clinical experiences must be scheduled to prevent over-loading of clinical units.

C-D (A-2) Students are provided with excellent learning experiences now so why change methods when they are very good. It has not been determined that CBVE is the best way. Students gain competency no matter what the method.

B-E (A-2) The biggest problem is time and resources to develop your course. The next biggest problem is to keep up with developments in your field while having year round schools.

C-E (A-2) I suggest every Voc course have two instructors and a limit of 20 students until CBVE course is well established. The senior instructor should have as his main responsibility, the development of the course. He should have one to three months a year to work in the field and go to other institutions where CBVE is working. He should also have at least six weeks vacation a year to recover from the pressure cooker. I have worked in one institution for 9½ years and another for four years. My answers would be quite different in each institution.

C-E (A-2 to A-5) The barrier does not exist in the institution where I am employed, but other educators do not speak so positively about institutions elsewhere in Florida.

C-E (B-5) My administrator allows updating at professional conferences. I do not believe this is true of all administrators or institutions.

C-E (D-3) Many students are unrealistic about the time required to become competent in a skill.

B-E (D-3) Merit Pay teacher evaluation is based on traditional teaching methods.

B-E (D-3) Close to 50 percent of all students do not learn their best way using CBVE. Without incorporating group lecture and theory, quality of CBVE is lessened.

B-E (D-3) Lack of uniform criteria and methodology for implementation of CBVE among administrative personnel, as well as the absence of a uniform definition of CBVE, separating it from traditional academic education in methodology of instruction.

B-E (D-3) Only high quality students are successful in CBVE. Most students don't fit in this category -- high quality students are those that have good reading comprehension, good math skills, English, basic shop.

B-E (D-3) CBVE should be constant from one class to another as far as format is concerned.

B-E (D-3) Each CBVE must have local advisory committee's response and backing which means teacher coordinator must have time to spend in business community.

C-E (B-7) Especially when a substitute comes into the classroom who is not familiar with CBVE, or very familiar with the subject matter.

C-E (C-3) Clerical help is severly lacking. I have had to come to school on weekends to re-organize, clarify, etc. the modules. Just asking a new resource can be an arduous task. But yet, I feel updating is essential to CBVE programs.

C-E (D-1) Yes, much of the failure on students' part is lack of self-direction.

C-E (E-3) Especially finding funds to pay for staff during these extra times.

C-E (E-4) Even a bulb that blows in a film strip projector can be a slight disaster time-wise, if it is expected that the instructor will maintain the equipment.

C-E (E-5) Our greatest difficulty with resources is that books are taken and never returned, and then the instructor needs to spend additional time (away from working with students) to locate and get back books. Yet, it is essential not to limit students to a single resource. The beauty of CBVE is the wealth of resources a student has access to.

C-E (F-2) I wrote the modules for the program and included adequate theory.

C-E (H-1) We have been trying, unsuccessfully so far, to have the local community college grant transfer credits to our completers.

C-E (L-8) Yes, I believe this is where merit pay fits.

B-E (L-8) Program competencies are not standardized among state vocational schools. Thus, students who transfer have difficulty in completing programs and must repeat segments.

B-E (L-8) Maintaining a "model" lab is difficult if a program has only one instructor.

B-E (L-8) Faculty that has 3 years experience other than CBVE will resist change.

B-E (L-8) Classrooms and labs are already set-up for traditional training and will not be re-funded for CBVE.

B-E (L-8) If release time were provided for faculty to upgrade, they still would not.

C-E (L-8) Some administrators appear to fully understand CBVE and some do not. Most do not realize the amount of time, effort and funding that is required for program start-up.

C-E (L-8) The continuity of an instructional program will collapse under present conditions if the new faculty member who replaces a retiree is not very familiar with CBVE.

C-E (L-8) Subject matter for teachers should be taught in the colleges for upgrading rather than method courses. The local colleges are not equipped to teach subject matter for teachers, but rather concentrate on more open-ended junk courses

B-E (L-8) With the new legislative funding requirement regarding tuition, another barrier has been added.

B-E (L-8) Do teachers really <u>want</u> CBVE? (I find the answer to be "no" if it means changing curricula.)

C-E (A-1) Administrators talk about CBVE and its merits out of one side-of-the-mouth and then say "stay traditional" out of the other side -- this is very frustrating.

C-E (B-2) Many faculty members cannot accept the role of classroom manager. They have to change their role, techniques, etc., if the CBVE concept is to be carrier out successfully.

B-E Students:

1. The student's ability to read basic instructions prevent the use of CBVE.

2. The student's ability to perform basic math functions prevent the use of CBVE.

3. Placement and ability screening of students prevent success in the use of CBVE.

C-E (B-4) We have a lot of help from our curricula and staff development and media center person.

C-E (C-3) At this school.

C-E (I-1)(I-2)(I-3) Our voc courses at USF endorse CBVE.

C-E (I-1)(I-2)(I-3) Our supervisor is planning a workshop here for all our cosmetology teachers to learn about CBVE.

B-E (I-1)(I-2)(I-3) Students coming into a CBVE program lack experience in such a learning environment. (They have had 11, 12, 13 years of traditional and do not trust this method.)

B-E (I-1)(I-2)(I-3) Constant changes and discussion of major changes in the educational system tend to make instructors say "why bother -- by the time I get my program up to date they will close it."

B-E (I-1)(I-2)(I-3) Almost all of the teachers I know teach as a second income -- they are not educators, just double dippers.

C-E (D-2) Never

C-E (D-3) True

C-E (E-5) Less material in the long run.

B-E (E-5) Students who are not really self-motivated have a difficult time with self-paced programs.

B-E (E-5) Nothing is wrong with CBVE; however, self-pacing causes feelings of teacher indifference in the student's mind.

B-E (E-5) Students surveyed after one year of CBVE - self-paced, open-entry/open-exit, are generally unsatisfied with the methods. They expect to be "instructed" in group training sessions and simply don't like to have to proceed on their own pace. (Comment: We have used minimum competency levels for years and it works.)

B-E (E-5) Some programs are more adaptable to the self-pacing than others -- nursery Operations, horticulture -- needs a lot of group time -- pronounciation -- exchanging ideas -- concepts, etc. Whereas a brick is a brick.

C-E (B-3) This barrier hits home with me and my program. After the fourth year of our CBVE program, I still cannot "keep up" with modifications along with other responsibilities, such as:

Dispensing of instruction materials.

Student progress record keeping and the evaluation procedure of each student's lab and class work.

C-E (B-3) The CBVE program, I believe, provides an excellent education for my commercial foods students, but the implementation of CBVE is overwhelming. I was in no way prepared for this (I-1) as a teacher.

C-F (B-1-b) ... are threatened ...

C-F (G-2) ... or FTE operating costs.

C-F (H-2) ... and so do legislators!

C-F (K-1) Board of Nursing, Real Estate, AMA.

C-F (K-2) Clock hour approval of programs.

C-F (L-8) State certification not required for college learning managers.

B-F (L-8) There is a lack of validated data that demonstrates that CBVE works better than conventional programs.

C-F (E-1)(E-6) True of any program.

C-F (H-2) Technical theory based curriculum may be of this nature, CBVE or not.

C-F (H-2) Some of these questions really should be answered on a program by program basis. What may be a barrier in one program may not be in another.

C-F (B-3) Is a most serious barrier.

C-G (A-) I think you can find administrators willing to support it and others against it.

C-G (B-1)(I-2) Some do -- some don't.

C-G (B-1)(I-2) I know some who have had to implement it without any compensation time or money. That does not present a very positive attitude toward it!

C-G (L-5) When good teachers are offered double (+) salaries, education is lacking financial support.

B-G (L-5) Funding for equipment and building construction appears adequate, but the quality of instrctors is allowed to deteriorate (i.e., college instructors are now teaching an extra 3-hour course for free for the privilege of working a 12-month contract. Funds are available for equipment or building, even when students -- FTE -- are enrolled). College administrators apply pressure on faculty ("take it or leave it") when the pressure more appropriately should be directed to legislators.

B-G (L-5) Public relations (i.e., recruiting, etc.) and various other unnecessary activities vie for the time and energy of instructors or chairpersons who are responsible for the implementation of CBVE or improving an existing CBVE program.

C-G (A-1) Our administrators are positive about CBVE. They want it to succeed. However, they were not aware of the time required to develop learning guides, etc. They're committed psychologically to CBVE, but not to release time, expenditure of funds (which it appears are unavailable, etc.)

C-G (A-4) Our faculty wants to cooperate -- but 25 hours in class, plus paperwork, committee assignments, and day-to-day preparation prevent full attention to development of CBVE materials.

C-G (A-4) Students with poor academic skills require the opportunity to improve those skills. While it is possible for these students to acquire the manual skills of a given occupation, many of these occupations require workers to use those same skills while on the job. It seems to me that it is cruel, to say the least, to provide only manual skills. IMTS is our effort to overcome these discrepancies but not enough time is provided to acquire these skills through the IMTS system.

C-G (A-1) Should be broken into two statements -- it is hard to respond properly to "and/or" statements. There is a major difference between attitude toward CBVE and commitment to goals of CBVE.

C-G (A-1) I personally do not believe faculty are against change. We must change our teaching methods and curriculum regularly. The problem lies in the failure of administration and State government to recognize the cost factor involved in change. CBVE has many good features to help the instructor and the student, but complete CBVE delivery of material is not geared to training the majority of students. Only a small percentage of students are self-motivated to the degree necessary to succeed in a competency-based (CBVE) environment. Thank you for your interest in researching the problems faced in implementation of CBVE.

B-G (A-1) Industry response indicates lack of self-motivation in students trained by CBVE methods.

B-G (A-1) Instructors note a lack of leadership qualities in students trained in CBVE programs.

C-G (F-1) Very true.

C-G (H-2) As it should be.

B-G (H-2) Is CBVE the best way? I am not sure that it is in a fast changing environment. Students need to "learn" as well as "train."

B-G (H-2) Traditional teachers are non-receptive to CBVE mainly due to:

(1) Don't believe students can learn without being lectured.

(2) Uncomfortable in above situation and fail to realize they must and would be teaching on a higher level.

(3) Need to re-evaluate their teaching strategies and learn new ones.

(4) Need support and workshops to implement CBVE.

(5) State licensing agencies need to be appraised of value of CBVE especially open-entry/open-exit.

B-G (H-2) CBVE by design requires the teacher to relinquish control of the learner's progress and success or lack of progress and success. CBVE is based upon here and now observable reality. This is threatening to an individual whose self-worth is dependent upon student success or failure. Responsibilities are clearly defined for teacher and student which is good in the long run but may create a period of tension where parties involved attempt to re-establish old results based upon old methods or behaviors. Proper support and effective supervision is the key to successfully overcoming the period of tension evidenced by resistive behaviors.

B-G (H-2) CBVE may work OK for the typical Vo-Tech but <u>not</u> for the community college level of education.

C-G (M-1) Quality more than quanity.

B-G (M-1) The underlying assumption made by the presentors of this survey is that CBVE is desirable. While there are certain skill courses that lend themselves more readily to CBVE, having used both the traditional and CBVE approaches, I think the traditional approach fosters far better results and learning environments. While there is also a basic premise that teachers resist change, I would add that those of us that have at least 12 or more years of experience resist change for change sake. When the State Department provides materials as an alternative method of instruction, we are appreciative, particularly for those materials, plans, etc. that are applicable. However, because the state or anyone else mandates a particular mode of instruction does not necessarily mean it is best for every student, course, faculty or teacher. The sooner folks at the state and university levels realize this, the better and more "meritorious" our educational system will be.

C-G (F-4)(F-5)(F-6) Documentation is a major part of a CBVE program. However, it remains a major time consuming effort. A one-instructor program needs an aide to keep these tasks under control.

B-G (F-4)(F-5)(F-6) There is no proof that this will work with all courses. It is restricted to certain skills only.

C-D (K-1) Especially the Florida State Board of Nursing.

C-E (B-1-d) ... unless assistance and support are provided to the student to improve those weaknesses.

C-E (F-2)(F-4) Depends on developer and content.

C-E (F-5) More time is spent by instructor keeping records but it is not excessive or impossible.

C-E (G-1) Depends on lab and equipment -- I have experienced minimal problems in my lab.

C-E (G-1) Competency-based vocational education, combined with direct continued and consistent support by the instructor and the schools system offers the student a realistic opportunity to prepare for the world of work and today's demanding industry standards. It also reduces some of the existing problems associated with the transition from school to industry. I fell a truly CBVE program is the closest school has ever been to industry, in terms of placing responsibility on the student (employee) to perform specified tasks individually with minimal direct instructor (employer) contact. CBVE and industry appear to require the same minimum standards, positive attitudes, maturability, self-motivation, independent thinking, organization, dependability, etc. Maybe the future

of CBVE lies in employing industry and certified, qualified, vocational instructors, rather than administrators (many of whom are not vocationally certified or qualified) to develop, implement, and evaluate the various programs.

C-E (B-1-d) I have had some experience with CBVE and I will not recommend someone for placement who does not possess the core basic skills -- I am referring to 5th - 6th grade level skills. There are too many ways for these people to up-grade their skills for this condition to continue.

C-E (D-1) I do not consider this a barrier. This should be a basic requirement. If this maturity does not exist, the student needs to spend more time at the school site until a certain level of maturity is exemplified.

C-E (D-2) I do not believe this is a barrier. I think it is a realistic fact.

B-E (D-2) Availabilty of local offices where students may be placed.

B-E (D-2) Administrators fail to realize that there is a need for more managers (help) where there are "[illegible]nic" type floors with people at different levels of progress, clients, cars, etc. to contend with.

C-F (B-3) At this institution.

C-F (B-5) Not at this institution.

B-F (B-5) Introduction of CBVE in teacher training programs by university professors in methods and special methods classes.

B-F (B-5) Availability of open-entry/open-exit at community college level - definite barrier.

B-F (B-5) Support staff who specialize in curriculum development.

B-G (B-5) CBVE requirements make it extremely difficult for a college prep student to participate, or college prep requirements make it very difficult for a CBVE student to participate, as a spin-off: In scheduling CBVE students, little consideration is given to their ability to meet college prep requirements. Students are forced to make the choice of college prep or CBVE, even though the work experience is invaluable as a tool for earning funds to finance a college education.

C-G (E-1) Not at my school.

C-G (H-1) Not at my school.

C-G (F-8) Our institution permits the existence of opne-entry/open-exit and we are allowing students some degree of flexibility in the amount of time needed for completion. However, we feel we are at the mercy of the good graces of our current campus leaders (who are most supportive and willing to give this a try!). We fear the dark cloud of demand on each department to meet high average class sizes to meet FTE requirements. A good CBVE program requires a lower pupil-teacher ratio. There is more demand on a teacher's time in terms of student record keeping, individual student supervision and planning for the progress of each student. Anything worth while always takes more time and effort.

C-F (G-3) We have open-entry/open-exit.

C-F (G-4) Our CBVE does not fit true theory of the concept because of student fees. We extend the time but the student has to repay tuition.

C-E (B-1-f) This barrier is true having to implement new ways is very difficult. Howeve , once you become familiar with CBVE and are set up with resources and learning guides, it becomes easier. A teacher is spread thin but for a teacher to see the rewards it is well worth the difficulty.

C-E (B-5) Time should be provided for this due to the fact that it is necessary in order to be an effective teacher. College credit could help with this problem also.

C-E (B-6) This is difficult due to the fact that bus scheduling is a problem. The students will lose 30 minutes to an hour all total from class time to meet the home-school schedule. Most of these students are scheduled for 3-hour blocks and end up only with about two hours actuall class time.

C-E (H-3) Many county grading policies are not designed for vocational CBVE instruction. Many times under county policies work habits and attitudes are considered to be conduct. In a vocational setting it is very important to grade these habits since they are essential to successful employment. They are no longer conduct but an integral skill necessary to obtain and maintain a job. I feel it is necessary to develop a separate set of county policies for vocational programs.

C-E (L-6) CBVE will always have to be somewhat flexible depending upon students' needs. It has been my experience that the method of implementation changes with new group each year. However, this is what CBVE is all about. I don't believe there is "true" CBVE method.

C-E (B-1-f)(B-3) The chief barrier to CBVE is lack of planning time. Most of our instructors teach large segments and even whole

programs while high school teachers can only teach three subjects or less. Yet they still have twice the planning time. They also have the services of a CBE teacher for job placement while we generally do about 80-90 percent of the placement work ourselves. In order to have an effective program, an instructor must donate four or five hours per week of unpaid overtime.

C-E (B-1-d) Instructors have learned from unsuccessful placements that students with weak basic skills rarely succeed on the job. I am so disgusted with financial aid programs to need, but incapable students, that I write letters to legislators asking them to cut off tax-supported aid that is not based on scholarship ability.

C-E (B-5) Our school doesn't even provide release time for advisory committee meetings twice a year. Our flimsy, ineffective inservice programs are probably put in place so that we can say that we have inservice training. A travesty!

C-E (C-3) What clerical help? The more support staff we hire, the more paperwork we have to originate for them to shuffle.

C-E (B-1-f)(B-3) Very thorough document -- Covers all of the major concerns and difficulties associated with CBVE!

C-E (B-1-f)(B-3) Faculty is not convinced that CBVE is an improved method of delivery as opposed to traditional methods.

C-E (F-3) What materials?

C-E (F-3) In health occupations, scheduling students in health care facilities when they are at multiple levels within the program is highly resisted by the facilities. I visited a health occupations facility this summer that was supposedly CBVE but they found it impossible to have students progress at different rates. They used competency check lists for evaluation but all students progressed (or failed) as a group. Those who failed continued with the next group when they reached that level in the program and if there was space available.

C-D (B-7) Needs expansion re: part-time use of CBVE.

C-D (B-7) These questions were very difficult to answer. Many of the statements I marked as barriers because I have known people who experienced them at other institutions. However, CBVE can be implemented without experiencing so many barriers. Many of these are made barriers simply because people are resistant to change.

Questionniare # 2 - Influence of Barriers

C-A (F-6) Most are teaching extra.

C-A (I-3) Thank heavens.

C-A (L-5) Too much.

C-A (L-6) Thank God!

C-A (L-7) Why should there be?

C-A (M-1) Very true.

C-A (M-5) Shouldn't they? CBVE (Module based on self-paced) is an overly expensive boondoggle that turns out less well performing completers. Students can't troubleshoot, diagnose and repair as well as conventionally trained ones. Programs with like resources should be compared.

C-A (B-5) Problem for all institutions not just those concered with CBVE.

C-5 (F-10) Few would transfer. Discussions to implement or ignore CBVE remain with administrators who exercise their rights of "school-based management." Therein lies the comparison of results. A few institutions have moved forward with CBVE with exemplary success, and one must admit resources remain equitable, (i.e., students, instructors, agency demands, schedules, facilities and funds).

C-C (A-2) We/They know about it. Every school or vocational class needs a grant like the "Ridge Project" to implement this. Funding for instructional aids would be needed to continue with CBVE. Smaller schools will be limited, I believe.

C-D (A-2) The assumption that all of the barriers listed exist causes front-loading toward maximum amount of influence. Therfore, a true picture of needs and barriers cannot be obtained. Responses reflect attitudes, opinions and knowledge regarding CBVE and does not necessarily reflect fact.

C-D (G-5) A big problem.

C-D (G-5) I feel there has been enough surveys and discussion on CBVE and that the sooner we get down to "brass tacks" and make it happen the sooner vocational education will be serving the needs of students and industry as it should. This method of teaching to attain the skills necessary for a worker to enter a field at a desired level of employment is far superior to conventional education in meeting specific criteria

for job skills. I personally feel this will also hasten the time when truly self-paced, open-ended programs will become a reality.

C-D (G-5) So much of the effective implementation of CBVE comes from conscientious, committed instructors who believe CBVE open-entry/open-exit is truly best for their students. These people can do wonders with very little funding and minimal support. The decrease of barriers from administrators, support staff, procedures, State operation and physical restrictions would enhance their efforts. More skeptical teachers would be encourage to try and see the rewards. We We've done CBVE for ten years with a great deal of success -- with little in funding help but with lots of support from our school administrators.

C-E (I-2) This is a great example to new teachers.

C-E (I-3) This is an example of how not to teach.

C-E (L-7) A financial incentive might work very well in place of merit pay! Why not try it as a measurement for VocEd programs and have the teacher take the trade competency test.

C-E (D-2) Less time.

C-E (E-5) No way.

C-E (F-2) Wrong.

C-E (F-3) Very true.

C-E (F-10) I think that they should not be standardized. Those who make decisions obtain their knowledge from a book whose author has never used CBVE in a classroom.

C-E (D-2) Until administrtors are willing to allow either (a) release time for instructors to write CBVE programs or (b) hire curriculum writers for each division of the school or have access to state-developed programs for every occupation, CBVE will not be a success. Also, the new funding will drastically effect our use of CBVE!

C-E (D-2) It is my opinion that in order for the removal of any barrier to influence implementation of CBVE, all barriers would have to be removed. All groups are inter-related. CBVE is such a sensitive system, that the impact of each "barrier group" is felt strongly throughout the system. Each sub-system has to be working effectively in order for the super-system to work effectively. This is a case where "the whole is equal (just) to the sum of the parts."

C-E (C-2) Giving authority to curriculum specialists would not be a greater influencer, if faculty and administration, etc., also did not support the idea. In fact, it might cause ill will.

C-E (D-1) How can this barrier be removed? Bar "immature" students (secondary and postsecondary)? That would eliminate a great many of your students. Also, are you basing your statement on research done on CBVE? Maturity and self-direction are continuum variables. Individualized instruction, which CBVE is (or should be) can be constructed to handle a student who is anywhere along the continuum. We have done it.

C-E (E-5)(E-6)(F-4)(F-5) I think these barriers are being removed (or could be) through use of computers.

C-E (L-7) Merit pay appears to be biased against CBVE master teachers.

C-F (F-10) This is something to be considered in local task indentification.

C-F (F-10) The removal of barriers will assist the implementation of CBVE; however, different barriers would or may have different effects from one institution and group of people to another, i.e., what works with one group might not with another -- one person's problem might be another's challenge depending on the people and circumstances.

C-F (F-10) Consensus is that CBVE increases attrition among academically disadvantaged. Perhaps a study should be made to refute or confirm this and to determine causes if this is correct.

C-G (F-10) Time spent by faculty is not rewarded proportionately to other faculty ($). CBVE spend twice as much time in classroom/shops. Wasted time in school year calendar for instructors. I'm well pleased with packages provided to me of CBVE materials by DVE.